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Voluntary sustainability standards to cope with the new European Union Regulation on deforestation-free products: a gap analysis

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Table of contents

Abbreviations and acronyms9					
S	um	ma	ry		12
1. Introduction					13
1.1 Bac			Bac	kground	14
		1.1	.1	Deforestation and deforestation drivers	14
		1.1	.2	European Union Regulation on deforestation-free products	17
		1.1. Reg	.3 gulati	Voluntary Sustainability Standards in the context of the European U ion on deforestation-free products	nion 19
	1.	2	Pro	blem statement	21
	1.:	3	Obje	ectives	22
		1.3	.1	Main objective	22
		1.3	.2	Specific objectives	22
	1.4	4	Stru	icture of the thesis	23
2.		Lite	eratu	ire review	24
	2.	1	Emb	podied deforestation and the case of the European Union	24
	2.2	2	Inte	rnational efforts to fight against deforestation	26
2.3 Vo		Volu	untary initiatives for deforestation-free supply chains	29	
2.4 Vol		Volu	untary Sustainability Standards and third-party verified schemes	33	
		2.4	.1	Definitions	33
		2.4	.2	Emergence, growth, and global coverage	35
		2.4	.3	Potential and limitations of Voluntary Sustainability Standards	38
		2.4	.4	Voluntary Sustainability Schemes as part of a policy mix	42
2.4.5 policie		.5 cies	Voluntary Sustainability Standards in the context of European U	nion 44	
3.		Res	searc	ch methodology	48
	3.	1	Ass	essment framework	48
		3.1	.1	Overview and background	48
		3.1	.2	Framework structure	49
		3.1	.3	Data collection	53
	3.1.4		.4	Data analysis	53
3.2 Application of the community members		App iunity	lication of the assessment framework: a pre-assessment on IS / members	EAL 54	
	3.3	3	Targ	geting producer countries	56

4.	Result	S	58
4	.1 Ov	verview of the selected schemes	
	4.1.1	Fairtrade International	58
	4.1.2	Forest Stewardship Council (FSC)	59
	4.1.3	Rainforest Alliance	60
	4.1.4	Roundtable on Sustainable Palm Oil (RSPO)	61
	4.1.5	Round Table on Responsible Soy Association (RTRS)	62
	4.1.6	Summary	63
	4.1.7	Standards and other relevant documents	66
4	.2 Ap	plication of the assessment framework: overall results	71
	4.2.1	Overall results	71
	4.2.2	Principle A	74
	4.2.3	Principle B	76
	4.2.4	Principle C	77
4	.3 Ap	plication of the assessment framework: results for each scheme	79
	4.3.1	Fairtrade International	
	4.3.2	Forest Stewardship Council (FSC)	85
	4.3.3	Rainforest Alliance	
	4.3.4	Roundtable on Sustainable Palm Oil (RSPO)	93
	4.3.5	Round Table on Responsible Soy Association (RTRS)	96
4	.4 Ta	rgeting producer countries	100
	4.4.1	Beef and buffalo meat	100
	4.4.2	Cocoa beans	102
	4.4.3	Green coffee	104
	4.4.4	Palm oil fruit	106
	4.4.5	Natural rubber	108
	4.4.6	Soybeans	109
	4.4.7	Wood products	111
5.	Discus	ssion	114
5	.1 Ap	plication of the assessment framework	114
5	.2 Ta	rgeting producer countries	120
5	.3 Ma	anagement implications	126
5	.4 Lir	nitations and suggestions for future research	128
6.	Concl	usions	131

Quoted literature133
Web sites165
Annexes
Annex 1 – List of commodities and products covered by the European Union Regulation on deforestation-free products
Annex 2 – Assessment framework
Annex 3 – List of European Union countries179
Annex 4 – Full application of the assessment framework to Fairtrade International
Annex 5 – Full application of the assessment framework to Forest Stewardship Council (FSC)
Annex 6 – Full application of the assessment framework to Rainforest Alliance 254
Annex 7 – Full application of the assessment framework to Roundtable on Sustainable Palm Oil (RSPO)
Annex 8 – Full application of the assessment framework to Round Table on Responsible Soy Association (RTRS)
Annex 9 – Deforestation risk (hectares) imported by the European Union associated with the trade of beef and buffalo meat between 2005 and 2018, considering the top 5 countries for each year of analysis
Annex 10 – Deforestation risk (hectares) imported by the European Union associated with the trade of cocoa beans between 2005 and 2018, considering the top 5 countries for each year of analysis
Annex 11 – Deforestation risk (hectares) imported by the European Union associated with the trade of green coffee between 2005 and 2018, considering the top 5 countries for each year of analysis
Annex 12 – Deforestation risk (hectares) imported by the European Union associated with the trade of palm oil fruit between 2005 and 2018, considering the top 5 countries for each year of analysis
Annex 13 – Deforestation risk (hectares) imported by the European Union associated with the trade of natural rubber between 2005 and 2018, considering the top 5 countries for each year of analysis
Annex 14 – Deforestation risk (hectares) imported by the European Union associated with the trade of soybeans between 2005 and 2018, considering the top 5 countries for each year of analysis
Annex 15 – Deforestation risk (hectares) imported by the European Union associated with the trade of wood products between 2005 and 2017, considering the top 5 countries for each year of analysis

List of figures

Figure 1: Total certified area (A) and share of the respective total crop area (B) for eight agricultural commodities under 12 certification schemes in 202037
Figure 2: Total certified area (A) and number of certified producers (B) for 12 certification schemes in 2020
Figure 3: Exemplification of the hierarchical framework approach
Figure 4: Summary of results of the application of the assessment framework to the selected schemes
Figure 5: Overall percentage of indicator coverage by scheme74
Figure 6: Results from the assessment framework for Principle A, by criteria and scheme
Figure 7: Results from the assessment framework for Principle B, by criteria and scheme
Figure 8: Results from the assessment framework for Principle C, by criteria and scheme
Figure 9: Total and relative contributions of commodities to the deforestation risk imported by the EU between 2005 and 2018
Figure 10: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of beef and buffalo meat between 2005 and 2018
Figure 11: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of beef and buffalo meat between 2005 and 2018. 101
Figure 12: Trends of deforestation risk (ha) imported by the EU associated with the trade of beef and buffalo meat between 2005 and 2018, considering the top 5 countries for each year of analysis
Figure 13: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of cocoa beans between 2005 and 2018
Figure 14: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of cocoa beans between 2005 and 2018
Figure 15: Trends of deforestation risk (ha) imported by the EU associated with the trade of cocoa beans between 2005 and 2018, considering the top 5 countries for each year of analysis
Figure 16: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of green coffee between 2005 and 2018
Figure 17: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of green coffee between 2005 and 2018
Figure 18: Trends of deforestation risk (ha) imported by the EU associated with the trade of green coffee between 2005 and 2018, considering the top 5 countries for each year of analysis
Figure 19: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of palm oil fruit between 2005 and 2018
Figure 20: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of palm oil fruit between 2005 and 2018

List of tables

Table 1: Deforestation attributed to agriculture according to different studies 16
Table 2: Key international initiatives targeting deforestation
Table 3: Summary of private sector voluntary initiatives connected to the EU to address direct drivers of deforestation and forest degradation
Table 4: Certification area, share of global area and area growth in two intervals foreight agricultural commodities under 12 certification schemes and for forest under 2certification schemes in 2020
Table 5: Performance of certification and verification schemes in the forest sector andfor wood-based products based on the 84 indicators from the assessment frameworkproposed by Preferred by Nature (2021)
Table 6: Principles, criteria and indicators of the assessment framework
Table 7: Possible outcomes for indicators of the assessment framework
Table 8: Select schemes and covered commodities 55
Table 9: EUDR commodities and proxy commodities in datasets on deforestation risk associated to bilateral trade 57
Table 10: Summary of selected schemes' general information and extent ofimplementation63
Table 11: Standards and other documents mapped as relevant data sources and used for assessing the selected schemes
Table 12: Summary of results of the application of the assessment framework to the selected schemes, by indicator 72

Abbreviations and acronyms

AFi	Accountability Framework initiative		
AP	Assurance provider		
ASI	Assurance Services International		
CAP	Common Agricultural Policy		
CAR	Corrective action request		
СВ	Certification body		
CFI	Cocoa and Forests Initiative		
CGF	Consumer Goods Forum		
СН	Certificate holder		
CoC	Chain of custody		
СР	Contract production		
CSR	Corporate social responsibility		
CW	Controlled wood		
DDS	Due diligence system		
EU	European Union		
EUDR	European Union Deforestation Regulation		
FAO	Food and Agriculture Organization of the United Nations		
FFB	Fresh fruit bunch		
FLEGT	Forest Law Enforcement, Governance and Trade		
FM	Forest management		
FPIC	Free, prior and informed consent		
FRC	Forest-risk commodity		
FSC	Forest Stewardship Council		
FSS	Forest Stewardship Standard		
GAEC	Good agricultural and environmental conditions		
GATT	General Agreement on Tariffs and Trade		
GCP	Global Coffee Platform		
GHG	Greenhouse gases		
GLOBALG.A.P.	Good Agricultural Practices		
GMO	Genetically modified organism		
GRSB	Global Roundtable for Sustainable Beef		
GSP	Generalised Scheme of Preferences		
ha	Hectare		
HCS	High Carbon Stock		
HCSA	High Carbon Stock Approach		
HCV	High Conservation Value		
HL	Hired labour		

IAF	International Accreditation Forum		
ICS	Internal control system		
IEC	International Electrotechnical Commission		
IMS	Internal management system		
IP	Identity preserved		
ISH	Independent smallholder		
ISO	International Organization for Standardization		
ISPO	Indonesian Sustainable Palm Oil		
ІТС	International Trade Centre		
MB	Mass balance		
MSPO	Malaysian Sustainable Palm Oil		
MU	Management unit		
NC	Non-conformity		
NDPE	No Deforestation, No Peat, No Exploitation		
NGO	Non-governmental organization		
NI	National interpretation		
NPP	New planting procedure		
OECD	Organization for Economic Cooperation and Development		
P&C	Principles and criteria		
PEFC	Programme for the Endorsement of Forest Certification		
RaCP	Remediation and compensation procedure		
RED	Renewable Energy Directive		
RSPO	Roundtable on Sustainable Palm Oil		
RTRS	Round Table on Responsible Soy Association		
SAF	Sustainable Agriculture Network		
SDG	Sustainable Development Goal		
SG	Segregation		
SLIMF	Small or low-intensity managed forests		
SME	Small and medium enterprise		
SMR	Statutory management requirements		
SPO	Small-scale producer organization		
TNC	Transnational corporation		
UK	United Kingdom		
USA	United States of America		
VPA	Voluntary Partnership Agreement		
VSS	Voluntary Sustainability Standards		
ωтο	World Trade Organization		
WWF	World Wildlife Fund		
ZDC	Zero deforestation commitment		

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Summary

The European Union (EU) recently introduced the EU Deforestation Regulation (EUDR) to tackle global deforestation and forest degradation, with a focus on key commodities such as cattle, cocoa, coffee, oil palm, rubber, soya, and wood. The EUDR mandates that operators exercise due diligence to ensure these commodities are deforestation-free and are produced in accordance with relevant legislation. Voluntary Sustainability Standards (VSS) have been widely adopted by commodity producers and suppliers to promote deforestation-free supply chains. The EUDR recognizes certification and other third-party verified schemes as sources of supplementary information for conducting risk assessments. However, questions persist regarding the extent to which these schemes can aid operators in assessing compliance with the EUDR. Furthermore, the existing literature offers mixed evidence regarding their effectiveness. This study addresses these concerns by developing an assessment framework to evaluate the suitability of schemes in covering the due diligence requirements outlined in the EUDR. The framework adopts a hierarchical structure, organized into 3 principles, 8 criteria, and 24 indicators. These indicators were categorized as fully covered, partially covered, not covered, or not applicable. Five prominent VSS schemes were subjected to this framework: Fairtrade International, Forest Stewardship Council (FSC), Rainforest Alliance, Roundtable on Sustainable Palm Oil (RSPO), and Round Table on Responsible Soy Association (RTRS). The study found that these schemes addressed several indicators outlined in the framework, but gaps in their coverage were evident too. Notably, the schemes lacked comprehensive measures to prevent deforestation and forest degradation. Their requirements primarily concentrated on natural forests, protected areas, high conservation values (HCV), and/or high carbon stock (HCS) forests. Moreover, the schemes permitted exceptions that allowed for deforestation and forest degradation, albeit in limited proportions. The assessment also revealed gaps in the schemes' coverage of the relevant legislation defined by the EUDR. These gaps were more pronounced in standards designed for actors along the supply chain (e.g., traders, processors etc.) compared to those aimed at producers (e.g., farmers and forest managers). Additionally, the schemes allowed for traceability systems where standard-compliant material could be mixed with conventional material. Except for FSC, the targeted VSS schemes did not enforce controls on conventional material entering their supply chains, increasing the risk of noncompliance with the EUDR. Therefore, such systems are not suitable for operators, as they increase the risk that commodities are associated with deforestation and non-compliance with legislation. Another significant observation was the schemes' use of soft mechanisms to address violations of their standards. Operators should ascertain that the verified parties supplying these commodities have not violate any requirements that could potentially lead to non-compliance with the EUDR. This study reinforces that these schemes do not serve as a guaranteed path to compliance with the EUDR. Therefore, operators are obligated to establish a robust due diligence system capable of fulfilling all appliable requirements. Nevertheless, schemes can still offer substantial assistance by providing on-the-ground information supported by an assurance system. For this, operators must devise strategies to address the gaps and challenges identified in this study.

1. Introduction

Forests are the most biodiverse ecosystems in the world, home to most of the terrestrial plant and animal species (Brockerhoff *et al.*, 2017; FAO and UNEP, 2020). Tropical forests, in particular, exhibit exceptionally high species diversity (Kreft and Jetz, 2007; Mittermeier *et al.*, 2011; Pillay *et al.*, 2021). Forests deliver a wide range of ecosystem services, encompassing the supply of timber, food, and medicinal resources, the regulation of climate, water, and erosion, along with cultural amenities like recreation. They also provide vital services that support life on Earth as we recognize it today, such as photosynthesis and nutrient cycling (MEA, 2005; Pan *et al.*, 2011; Reed *et al.*, 2017; Hasan *et al.*, 2020; Tagesson *et al.*, 2020).

Nonetheless, forests have been converted into other land uses for centuries. This conversion history is more ancient in some countries, many of which are now in process of forest transition – shifting from a net loss to a net gain of forested land (Mather, 1992; Meyfroidt and Lambin, 2011). This phenomenon is observable in various developed countries, where off-farm economic prospects have prompted the migration of people from fields and created conditions for spontaneous forests regeneration, or where the scarcity of forest products resulted in the need for tree planting (Rudel *et al.*, 2005).

The regions experiencing the most pronounced net forest gain are Europe and East Asia (FAO, 2020a). In contrast, certain countries continue to exhibit significant rates of deforestation, particularly within tropical regions. Notably, the world regions currently experiencing substantial net forest loss encompass South America, South and Southeast Asia, Western and Central Africa, as well as Eastern and Southern Africa (FAO, 2020a).

Deforestation drives biodiversity loss (Barlow *et al.*, 2016; Ducatez and Shine, 2017; Giam, 2017; Curtis *et al.*, 2021), has negative effects on the water cycle (Muñoz-Piña, 2018; Staal *et al.*, 2020), and contributes to desertification (D'Odorico *et al.*, 2013; Vieira *et al.*, 2021). Moreover, since land use change is one of the main sources of greenhouse gases (GHG) emission, deforestation also contributes significantly to climate change (Pendrill *et al.*, 2019a; IPCC, 2022). Moreover, deforestation and forest degradation have both direct and indirect social and economic roots and impacts (Meyer *et al.*, 2003).

Consequently, the well-being of human populations hinges greatly on the sustainable management of natural resources, rendering deforestation an environmental and socioeconomic issue of worldwide significance (MEA, 2005; IPBES, 2019). Agricultural expansion is widely recognized as the primary direct driver of deforestation in tropical regions (Curtis *et al.*, 2018). Globalization and trade liberalization have heightened the vulnerability of forests in agricultural frontiers, as international demand intensifies the deforestation pressure on tropical nations, added to the effects of domestic demand (Meyfroidt *et al.*, 2013; Franco-Solís and Montanía, 2021; Hoang and Kanemoto, 2021).

Commodities that substantially contribute to deforestation in tropical areas, referred to as forest-risk commodities (FRCs), encompass cattle meat, palm oil, soybeans, and forestry products (i.e., wood and wood-based products), among

others. The extent of their individual contributions fluctuates across countries and regions (Henders *et al.*, 2015; Pendrill *et al.*, 2019b). In certain countries, additional commodities also exert significant influence, including cocoa, coffee, rice, rubber, and sugar, as well as commodity groups like oilseeds aside from soybeans, other cereals, roots and tubers, and pulses (Pendrill *et al.*, 2019b).

As awareness of the intricate challenge posed by deforestation has grown, numerous initiatives have emerged over recent decades to combat this problem. A subset of these initiatives is propelled by governments and involves command-and-control regulatory mechanisms. Some of them are country-wide initiatives by producing countries. For example, Brazil, which experienced the highest deforestation rate between 2010 and 2020 (FAO, 2020a), provides an illustrative example with the revision of its national forest law in 2012 to address these issues (Brancalion *et al.*, 2016).

More recently, however, certain importing/consuming countries have implemented regulatory measures that explicitly target deforestation resulting from their imports of agricultural and forestry commodities. Examples include the United Kingdom (UK) and the United States of America (USA) (Gent *et al.*, 2022). In some cases, initiatives go beyond single countries. A comparable approach has also been adopted by the European Union (EU), which, in 2023, endorsed a novel Regulation for deforestation-free products (EU Deforestation Regulation or EUDR), encompassing commodities and products linked to deforestation in tropical regions (European Commission, 2023a).

Conversely, besides command-and-control tools, other initiatives operate on a voluntary basis driven by market. Some key examples are corporate social responsibility (CSR) initiatives (e.g., transnational corporations adopting zero-deforestation commitments), sectorial commitments (e.g., beef and soy moratoria in Brazil), voluntary sustainability standards (VSS) and certification systems (e.g., standards with third-party conformity assessment for the sustainable production of agricultural and forestry commodities), and technical and financial assistance (e.g., private fundings for nature conservation) (Lambin *et al.*, 2018; European Commission, 2018a; Grabs *et al.*, 2021). Public and private initiatives can potentially complement each other for a more comprehensive coverage of deforestation (Lambin *et al.*, 2014).

1.1 Background

1.1.1 Deforestation and deforestation drivers

The Food and Agriculture Organization of the United Nations (FAO) defines deforestation as the conversion of forest to other land uses, whether it is human-induced or not (FAO, 2020b). In turn, forest is defined as land spanning more than 0.5 hectare (ha) with trees higher than 5 meters and canopy cover greater than 10%, or trees able to reach these thresholds in situ, not including land predominantly under agricultural or urban use (FAO, 2020b).

FAO's latest Global Forest Resources Assessment revealed that 420 million ha of forest have been lost worldwide through deforestation since 1990. The global deforestation rate was estimated at 10 million ha per year in the 2015 and 2020

period. Forests located in the tropical regions are the most threatened, since 93% of deforestation took place in this climatic domain. Although the deforestation rates have been decreasing over the past decades, the values are still high and demand urgent actions to conserve forests (FAO, 2020a).

The forces that lead to human-induced deforestation are generally categorized into direct or proximate drivers, and indirect or underlying drivers (Kissinger *et al.*, 2012). The former pertains to human activities or immediate actions that directly impact forest cover, encompassing activities like agriculture (both commercial and subsistence), mining, infrastructure development, and urban expansion. In contrast, the latter involves intricate interactions within social, economic, political, cultural, and technological domains that regulate the direct drivers. These include elements such as population growth, international and domestic market dynamics, commodity prices, national policies, governance, and poverty (Kissinger *et al.*, 2012).

Some factors influencing deforestation are the biophysical characteristics (elevation, slope, soil suitability for agriculture), market demand for commodities (agricultural activity, proximity to agriculture, agricultural prices), built infrastructure (proximity to roads and urban areas), ownership and management rights (protected areas, law enforcement), and demographic and socioeconomics characteristics (population size, presence of indigenous peoples) (Busch and Ferretti-Gallon, 2017).

Across the globe, distinct concentrations of deforestation, commonly termed as deforestation fronts, emerge as noticeable patterns (Pacheco *et al.*, 2021). Within Latin America, these fronts encompass segments of the Amazon, Gran Chaco, Cerrado, Chocó-Darién, and the Maya Forests. In Africa, deforestation is focalized in specific areas of West, Central, and East Africa. In Asia and Oceania, the regions that are mainly affected include Mekong, Sumatra, Borneo, New Guinea, and Eastern Australia. Many of these fronts transcend national boundaries, spanning multiple countries. Indirect drivers unfold differently across regions, thereby shaping the dynamics of deforestation fronts (Pacheco *et al.*, 2021).

Tropical deforestation is more comprehensively understood through the consideration of multiple factors rather than single variables. A confluence of elements including agricultural expansion, timber extraction, and infrastructure development is frequently observed. The analogous complexity applies to indirect drivers, which are composed of an intricate interplay of economic, institutional, technological, cultural, and demographic elements. This intricate web of interactions underscores the multifaceted nature of the deforestation challenge (Geist and Lambin, 2002).

Deforestation is also not static across time scales. Small-scale farmers assisted by the state deforested large areas of forest in Southeast Asia and Latin America from the 1960s to the 1980s. However, well-capitalized ranchers, farmers, and loggers focused on distant markets ascended after the 1980s in these regions, particularly in Brazil and Indonesia (Rudel *et al.*, 2009). Moreover, very particular subjects and events can play important roles in some cases, such as in Colombia, where deforestation has been highly associated with an armed conflict taking place in the country (Hoffmann *et al.*, 2018). Although agricultural expansion is the main direct driver of tropical deforestation (Geist Lambin, 2002; Hosonuma *et al.*, 2012; Curtis *et al.*, 2018), distinct agricultural types influence land use dynamics differently across regions. For example, while commercial agriculture for commodity production (i.e., market-oriented) is more significant in Latin America, shifting agriculture (i.e., for subsistence) predominates in Africa, for example (Hosonuma *et al.*, 2012; Curtis *et al.*, 2018). Distinct patterns can also emerge within regions and among different forest types (Armenteras *et al.*, 2017).

Notwithstanding the variations and nuances mentioned, agricultural expansion consistently emerges as the foremost direct driver of tropical deforestation. However, quantifying its exact contribution on a large scale remains highly challenging. Previous research indicates that over half of global deforestation is attributed to agricultural expansion, with this proportion even higher when focusing solely on tropical and subtropical countries (Table 1).

Study	Deforestation attributed to agriculture	Geographical scope	Time scope	Agriculture specification
Studies focused	on deforestation at t	he global scale		
Cuypers <i>et al.</i> (2013)	55%	Global	1990 - 2008	Crop production, ruminant livestock production and industrial roundwood production
Curtis <i>et al.</i> (2018)	51%	Global	2000 - 2015	Commodity driven deforestation and shifting agriculture
FAO (2020c)	88%	Global	2000 - 2018	Agricultural expansion
Studies focused	on deforestation in t	he tropics and subt	ropics	
Hosonuma <i>et</i> <i>al.</i> (2012)	73%	100 tropical and subtropical countries	2000 - 2010	Commercial and subsistence agriculture
Lawson (2014)	71%	17 tropical countries	2000 - 2012	Commercial agriculture
Curtis <i>et al.</i> (2018)	88%	Latin America, Africa and Southeast Asia	2000 - 2015	Commodity driven deforestation and shifting agriculture
Dummett <i>et al.</i> (2021) - update of Lawson (2014)	60%	23 tropical countries	2013 - 2019	Commercial agriculture

Table 1: Deforestation attributed to agriculture according to different studies

The variability across results from different studies can be attributed to differences in methodological approaches, uncertainties of estimates, and conceptual distinctions (Pendrill *et al.*, 2022). These studies embrace a variety of approaches, including methodologies reliant on data reported by countries and remote sensing data. Further divergences arise from variations in analysis time frames and geographic scopes. For instance, Lawson (2014) and Dummett *et al.* (2021) examined different subsets of tropical countries in different years. Moreover, the way direct drivers are conceptualized can influence outcomes, as agriculture subcategories may vary. Despite variations in outcomes among available studies, the undeniable role of agriculture as the primary direct driver of deforestation remains consistent.

1.1.2 European Union Regulation on deforestation-free products

Building on increasingly growing concerns and on experience acquired with the EU Timber Regulation (EUTR) (European Commission, 2010), the EU has defined as one of its priorities to reduce its consumption footprint on land and encourage the consumption of products from deforestation-free supply chains (European Commission, 2019). In 2021, the European Commission presented the first proposal for the EUDR, a regulatory instrument designed to address embodied deforestation in agricultural and forestry commodities (European Commission, 2021a). The definitive version of the EUDR was ratified by both the European Parliament and the Council of the European Union in May of 2023 (European Commission, 2023a).

The need for intervention was grounded in the legal foundation of the Treaty on the Functioning of the European Union, which requires the EU to establish and pursue shared policies and initiatives aimed at preserving an improving the quality of the environment and the sustainable management of global natural resources (European Commission, 2021b). Additionally, the EUDR was deemed essential to avert any competitive disparities among businesses that embrace responsible practices. Furthermore, it sought to accomplish unified and harmonized action, complementing and strengthening national efforts (European Commission, 2021b).

There has been discourse surrounding the moral responsibility of the EU to confront deforestation resulting from its consumption behaviours (Pontecorvo, 2022; Kumeh and Ramcilovic-Suominen, 2023). This perspective can be associated with the concept of complicity, or co-responsibility, where an entity may play a role in facilitating wrongdoing by another entity (Lepora and Goodin, 2013; Durán and Scott, 2022).

The FRCs included in the EUDR are cattle, cocoa, coffee, oil palm, natural rubber, soya and wood (European Commission, 2023a). These specific commodities represent the highest proportions of embodied deforestation imported into the EU (Cuypers *et al.*, 2013; European Commission, 2021b; Wedeux and Schulmeister-Oldenhove, 2021). The EUDR also covers a series of products derived from these commodities, i.e., that contain, have been fed with or have been made using them, which are presented in Annex 1 of this study. These will be referred to as "relevant commodities" and "relevant

products" within the context of this study, consistently aligning with the EUDR terminology.

Previous studies have recognized mandatory due diligence as the best policy option to promote sustainable and deforestation-free products within the EU market (European Commission, 2018a, 2021a; Heflich, 2020; Bager *et al.*, 2021). This conclusion was achieved by evaluating factors such as efficiency, feasibility, and policy impact. Therefore, this was the strategy adopted by the EUDR, also on the wake of EUTR (European Commission, 2010). Consequently, supply chain actors to whom the EUDR applies are obliged to exercise due diligence prior to placing relevant products on the EU market or exporting them (European Commission, 2023a).

This obligation applies to all operators (i.e., "any natural or legal person who, in the course of a commercial activity, places relevant products on the market or exports them"), as well as to traders (i.e., "any person in the supply chain other than the operator who, in the course of a commercial activity, makes relevant products available on the market") that are not small and medium enterprises (SMEs), which in practice are considered operators for the purposes of the EUDR (European Commission, 2023a).

According to Article 3, relevant products can only be placed in the EU market or exported if:

- (a) "they are deforestation-free,
- (b) they have been produced in accordance with the relevant legislation of the country of production,
- (c) they are covered by a due diligence statement."

According to Article 2, providing relevant definitions for the EUDR, deforestation-free means that:

- (a) "relevant products contain, have been fed with or have been made using, relevant commodities that were produced on land that has not been subject to deforestation after December 31st, 2020, and
- (b) in the case of relevant products that contain or have been made using wood, the wood has been harvested from the forest without inducing forest degradation after December 31st, 2020."

As mentioned above, the due diligence concept and approach has been adopted from the EUTR (European Commission, 2010) and is defined in Article 8. To comply with the EUDR, operators must:

- (a) "collect information, data and documents needed to fulfil the requirements set out in Article 9,
- (b) adopt risk assessment measures as referred to in Article 10, and
- (c) adopt risk mitigation measures as referred to in Article 11."

A product can only be placed on the EU market or exported when the operator exercises due diligence and concludes that no or only a negligible risk of non-compliance with the EUDR was found.

Demand-side public policies, such as the EUTR and the EUDR, play a significant role in tackling tropical deforestation (Haywood and Henriot, 2019). Additionally, online the EUTR, the EUDR's scope and focus are not limited to the legality of the relevant products and includes reference to deforestation-free state as well. This advancement is crucial, given that deforestation frequently takes place within legal parameters (Reis *et al.*, 2021). However, certain aspects of the EUDR have also been subject to criticism.

A significant concern pertains to the potential impact of the EUDR on vulnerable groups, including smallholders, Indigenous Peoples, and local communities (Zhunusova *et al.*, 2022; Warren-Thomas *et al.*, 2023). Zhunusova *et al.* (2022) argue that these groups might face challenges in participating in high-value supply chains due to the technical difficulties and elevated expenses associated with adapting to the new rules. Furthermore, some organizations have also highlighted how the stringent traceability requirements of the EUDR (i.e., tracing the relevant commodities back to the plot of land used to produce them) could pose difficulties for smallholders, as implementing such systems is complex and costly (CAOBISCO *et al.*, 2022; Fairtrade, 2022).

The EUDR has also faced criticism for its focus solely on forests, neglecting other non-forest ecosystems crucial for biodiversity conservation and carbon sequestration, such as grasslands, peatlands, and savannahs (ClientEarth, 2021; Greenpeace, 2021a; The Guardian, 2021). Another concern pertains to the risk of leakage, which could result in unsustainable products being redirected to consumer countries with less stringent regulations (Durán and Scott, 2022). This phenomenon was observed, for instance, during the implementation of the Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan, where timber exports reportedly shifted from the EU to China during the development of Voluntary Partnership Agreements (VPAs) (European Commission, 2003 and 2021c; Berning and Sotirov, 2023). The EU aims to address leakage issues through international cooperation with both producer and consumer countries (European Commission, 2023a).

Finally, some concerns were expressed regarding the compatibility between the EUDR and the World Trade Organization (WTO) rules, particularly how certain requirements might potentially conflict with the non-discrimination provisions of the General Agreement on Tariffs and Trade (GATT) (Durán and Scott, 2022; Capuzzi, 2023). All things considered, the EUDR represents a significant and innovative instrument to tackle tropical deforestation (Durán and Scott, 2022). However, its effectiveness will be contingent on its acceptance, implementation, and enforcement, as well as on the success of international cooperation in addressing leakage effects and the potential exclusion of vulnerable groups (Berning and Sotirov, 2023).

1.1.3 Voluntary Sustainability Standards in the context of the European Union Regulation on deforestation-free products

The EUDR recognizes certification or other third-party verified schemes as sources of complementary information for operators when conducting risk assessment (European Commission, 2023a). This is stated in Article 10(2-n), as

long as this information meets the requirements established in Article 9. In this context, some organizations affected by the EUDR responded after the proposal was approved in 2021, claiming for a higher recognition of these schemes (CAOBISCO *et al.*, 2022; COCERAL *et al.*, 2022; EuroCommerce, 2022).

These organizations argued that credible schemes already have wellestablished deforestation-free criteria and traceability systems in place (CAOBISCO *et al.*, 2022; ClientEarth, 2022a). Organizations from the palm oil sector also expressed a desire for tailoring the requirements to the commodity specificities in order to contribute to ongoing efforts (CAOBISCO *et al.*, 2022).

Certification schemes covering the relevant commodities also responded to the EUDR. The Roundtable on Sustainable Palm Oil (RSPO) welcomed the EUDR and the acknowledgement of certification schemes for supporting risk assessment. Conversely, RSPO advocated for an enhancement of the role of credible certification schemes by expanding their involvement in the due diligence procedure. Such an expansion could streamline processes for various stakeholders, alleviate administrative complexities for companies and governmental entities, and mitigate the repercussions on smallholders (RSPO, 2021). RSPO believes that certification will be an important tool for operators and traders in the implementation of EUDR and highlighted that deforestation is a central concern in RSPO standards (RSPO, 2022a).

Rainforest Alliance welcomed the fact that certification and third-party verified schemes were included by the EUDR as supporting tools for risk assessment. However, the organization claimed for precise criteria to qualify certification schemes used to this end, such as specifying minimum credibility requirements to avoid the development of weak sustainability schemes (Rainforest Alliance, 2022a).

The Forest Stewardship Council (FSC) welcomed the EUDR and considered that its certification system will support implementation. FSC was open to engage in collaboration with EU policy makers and national competent authorities for the development of new technologies for the traceability of wood products according to the EUDR requirements (FSC, 2022).

ISEAL, an alliance for improved sustainability systems from which several certification schemes are members, recognised that certification is not a green lane for the EUDR and cannot replace due diligence responsibilities, but rather might be a tool to support its implementation. ISEAL considers certification schemes as sources of highly relevant and verified information that can be useful in the due diligence process (ISEAL, 2022a). ISEAL also called for the need of establishing minimum credibility requirements for the recognition of certification or other third-party verified schemes in the context of the EUDR (ISEAL, 2022b).

A similar discussion occurred during the development of the EUTR, where various coalitions presented arguments both in favour of and against the complete acknowledgment of certification or other third party-verified schemes for assuring the legality of timber (Sotirov *et al.*, 2017; Dieguez and Sotirov, 2021).

This same discussion already took place (to some extent and a focus limited to forest certification/verification standards) during the adoption of the EUTR, with different coalitions advocating or opposing to a full recognition of certification or other third party-verified schemes for assuring the legality of timber. Ultimately, these schemes were incorporated as criteria for risk assessment within the EUTR framework, rather than being established as a direct route to compliance. Nevertheless, operators have largely incorporated certification schemes in their due diligence systems (DDS) in practice (Dieguez and Sotirov, 2021).

1.2 Problem statement

As outlined, there is a range of opinions advocating for greater recognition of certification or other third-party verified schemes in assisting operators with their due diligence responsibilities to ensure compliance with the EUDR. However, existing literature provides mixed and limited evidence regarding the effectiveness of these schemes (Milder *et al.*, 2015; Komives *et al.*, 2018; Grabs *et al.*, 2021; Meemken *et al.*, 2021). While some studies support the potential of these schemes to deliver sustainable production of agricultural and forestry commodities (Tayleur *et al.*, 2017, Schleifer *et al.*, 2022; UNFSS, 2022), others and the integrity of their systems (Greenpeace, 2021b).

It should be emphasized that these schemes are not the only options available for operators to fulfil their due diligence obligations. For example, operators could opt to create their own independent due diligence systems or modify existing ones. They might also choose to adopt newly emerging due diligence solutions tailored to address the EUDR, similar to what occurred with the implementation of the EUTR (e.g., RADIX Tree by Global Traceability, LegalSource by Preferred by Nature, Timber Legality Verification by Rainforest Alliance). Alternatively, operators could also recruit the services of specialized organizations.

However, this study takes the EUDR provisions, the claims previously presented, and previous developments related to the EUTR (Dieguez and Sotirov, 2021) as strong indication that these schemes will be directly involved in the EUDR implementation, and that their potential role requires clarifications based on objective evidence. The adjustments made by forestry sector schemes to align with EUTR requirements further underscore the relevance of this study (Preferred by Nature, 2012, 2013, 2019a and 2019b). Furthermore, the European Commission has called for more studies to understand the benefits and shortcomings of certification schemes as means to identify and promote deforestation-free commodities, as well as developing assessment tools to demonstrate their credibility and solidity (European Commission, 2019).

Few studies have explored the interplay between these schemes and EU policies. The main precedent for the present study is the report published by Preferred by Nature (2021), which analysed certification and verification schemes in the forest sector in the context of the EUTR. The outcomes from this investigation demonstrated the potential of these schemes to offer substantial assistance to operators striving to fulfil their due diligence responsibilities. Nonetheless, the study identified a number of deficiencies and

vulnerabilities, encompassing aspects such as insufficient social and environmental requirements, defective assurance mechanisms, and shortages in scheme governance.

However, the framework developed by Preferred by Nature (2021) was constructed upon the groundworks of the EUTR, which primarily revolved around ensuring the legality of wood entering the EU market (European Commission, 2010). The advent of the EUDR lead to a shift in various dimensions. Firstly, the EUDR's scope has broadened to encompass six agricultural commodities alongside wood. In addition to legality, the EUDR mandates that relevant products must be deforestation-free, introducing an added layer of complexity. Moreover, the ambit of relevant legislation delineated by the EUDR is significantly more extensive than the applicable legislation defined by the EUDR has also introduced the geolocation of all plots of land used to produce the relevant commodities, as well as the date or time range of production. Therefore, a renewed analysis becomes imperative to account for the novel elements brought forth by the EUDR.

1.3 Objectives

In this section research objectives are presented, dividing them into main (or general) and specific objectives.

1.3.1 Main objective

The main objective of this study was to evaluate to which extent VSS under certification or other third-party verified schemes might help operators to cope with the due diligence requirements from the EUDR.

1.3.2 Specific objectives

The specific objectives of this study were:

- To identify relevant VSS developed for commodities falling within the scope of the EUDR.
- To analyse, to the extent possible, the implementation of these VSS in terms of area, number of certificates, geographical distribution, and other relevant aspects.
- To propose a framework to assess if a VSS can deliver assurance of deforestation-free and legally produced commodities and products in terms of the EUDR.
- To analyse to which extent selected VSS provide adequate and reliable information and mechanisms for operators to fulfil due diligence requirements from the EUDR.

- To propose recommendations for standard-setting organizations to strengthen deforestation-free and legality requirements in their VSS.
- To identify future research opportunities on the interplay between the EUDR and VSS.

1.4 Structure of the thesis

Chapter 1 introduces the research topic, presents its relevance, and outlines the motivations for this study. The objects of this study are also provided.

Chapter 2 presents the literature review of topics relevant this study. It provides an overview of key literature on embodied deforestation, as well as public and private instruments to address deforestation. Special attention is paid to previous studies on VSS, including their background, impact, role addressing deforestation, and interconnection with EU policies.

Chapter 3 details the research methodology. Special attention is paid to the development and content of the assessment framework. Moreover, it describes how schemes were selected for applying the framework. Furthermore, it details the procedure for targeting producer countries for future applications of the assessment framework.

Chapter 4 presents the main findings of this study. First the results from the application of the assessment framework are presented, followed by a detailed assessment of each targeted VSS, and the identification of priority countries for future applications.

Chapter 5 presents the discussion of the results found. It first addresses the results from the application of the assessment framework. Then, the results for priority countries are discussed. It also addresses management implications of the findings, as well as the limitations of this study and opportunities for future research.

Finally, Chapter 6 draws the conclusions that were derived from this study.

2. Literature review

This section presents a review of literature pertinent to the topics of this study. Section 2.1 presents studies highlighting how the EU's consumption patterns drive tropical deforestation. Section 2.2 provides an overview of international efforts to fight deforestation. In section 2.3, focus is given to voluntary initiatives targeting deforestation, providing an overview of zero deforestation commitments (ZDCs), certification systems, tracking systems, as well as a summary of the main initiatives with direct link to the EU. In section 2.4, VSS are presented in more details, providing relevant definitions, an overview of the factors leading to their emergence and growth, data on their global coverage, and studies highlighting their potential and limitations in delivering sustainable, deforestation-free commodity production. The section continues to explore how VSS can be applied as part of a policy mix and ends with an overview of studies investigating the interplay between VSS and EU policies.

2.1 Embodied deforestation and the case of the European Union

Cuypers *et al.* (2013) estimated that 33% of crop products and 8% of livestock products were destined to international markets between 1990 and 2008. Pendrill *et al.* (2019b) found that deforestation across the tropics and subtropics was primarily driven by domestic consumption of agricultural commodities, but more than one quarter (26%) of the embodied deforestation was attributed to international demand between 2005 and 2013.

Thus, a consumer country can still be linked and held accountable for deforestation originated from the supply chain of consumption goods (Zaks *et al.*, 2009; Lawson, 2015). This perspective can be traced back to the idea of environmental footprint, used to describe the impact of human activities on the environment, which has been consistently applied to other domains, such as the ecological, carbon and water footprints (Hoekstra and Wiedmann, 2014; Lin *et al.*, 2018; Syrovátka, 2020; Matuštík and Kočí, 2021).

Incorporating the deforestation embodied in the international trade of FRCs when assessing forest dynamics leads to a recalibration of forest gain or forest loss, affecting the performance of several countries. In fact, countries with decreasing deforestation rates or increasing forest cover had a third of their net forest gain between 2005 and 2013 offset by imports of commodities causing deforestation elsewhere, since deforestation had been simply displaced (Pendrill *et al.*, 2019b).

The concept of embodied deforestation allows to establish the link between production and final consumption. In other words, it means *"deforestation embodied, as an externality, in a produced, traded, or consumed product, good, commodity or service"* (Cuypers *et al.*, 2013). An important step to address this problem is to understand which are the FRCs associated with deforestation and what are the parties behind their production and trade.

Cuypers *et al.* (2013) investigated the impact of EU consumption of imported food and non-food commodities and manufactured goods on deforestation

between 1990 and 2008. The results indicated that the EU imported almost 36% of all deforestation embodied in crop and livestock products traded internationally, corresponding to nearly 7% of global embodied deforestation. South America, Southeast Asia and Sub-Saharan Africa were the main sources, and the main commodities were oil crops (mainly soybeans, soybean cake and palm oil) and stimulants (coffee and cocoa), with lower contributions of livestock products, non-food fibres, rubber, cereals, roots, sugar crops, and fruit, vegetables, and nuts.

Henders *et al.* (2015) investigated the deforestation associated with production and international trade of beef, soybeans, palm oil and wood products between 2000 and 2011, focusing on countries with high deforestation rates and high production of these commodities (Brazil, Argentina, Paraguay, Bolivia, Indonesia, Malaysia, and Papua New Guinea). The production of the four commodities in the seven analysed countries accounted for 40% of tropical deforestation in that period. Moreover, more than one third of these impacts was embodied in international trade in 2011, highlighting how global markets influence deforestation dynamics. The main deforestation flow identified was linked to beef and soybean trade patterns from Latin America to Europe, China, former Soviet countries, Middle East, and Northern Africa.

Pendrill *et al.*, (2019b) investigated embodied deforestation based on highresolution satellite mapping (Hansen *et al.*, 2013) and FAOSTATS data. Results indicated that expanding pastures for cattle meat production accounted for more than 40% of the embodied deforestation across the tropics and sub-tropics between 2005 and 2013. Forestry products, palm oil and soybean accounted for approximately another 30% of the total. The main regions contributing to deforestation through agricultural expansion were Latin America, Asia-Pacific and Africa. As for consumers, China (mainland), India, Russian Federation, USA, Japan, Germany, Italy, UK, Egypt, and Brazil were found to be the largest importers of embodied deforestation.

Goldman *et al.* (2020) used tree cover loss datasets (Hansen *et al.*, 2013) and datasets of crop extent to estimate deforestation caused by agricultural expansion. Results indicated that cattle, oil palm, soya, cocoa, coffee, wood fibre, and rubber accounted for 58% of all agriculture-linked deforestation between 2001 and 2015. Subsistence agriculture and a wide variety of other crops responsible for small amounts of deforestation accounted for the remaining 42%. Cattle production was the most significant cause for deforestation, as it was responsible for 63% for the deforested area, followed by oil palm (14.6%) and soybean (11.4%).

Pendrill *et al.* (2020) published a dataset of estimates of tropical deforestation embodied in the production, exports, imports and consumption of agricultural and forestry commodities between 2005 and 2017. A land-balance model was used to attribute deforestation to expansion of cropland, pastures and forest plantation across 135 countries. Tree cover loss from high-resolution satellite mapping (Hansen *et al.*, 2013), FAOSTAT crop harvest data and specific national and subnational data were used.

Based on this dataset, Wedeux and Schulmeister-Oldenhove (2021) analysed the impact of EU consumption on deforestation between 2005 and 2017. Results pointed out EU as the second largest importer of tropical deforestation and associated emissions. The EU led global imports of embodied deforestation between 2005 and 2013, then it was surpassed by China in 2014. A total of 3.5 million ha of deforestation were linked to EU imports between 2005 and 2017.

The main commodities behind this number were soya, palm oil, beef, wood products, cocoa, and coffee, which together accounted for more than 80% of all embodied deforestation. Other commodities imported by the EU with lower contributions to embodied deforestation were rapeseed, rubber, maze, and sugar. Imports came mainly from Brazil, Indonesia, Argentina, and Paraguay. Meanwhile, Germany, Italy, Spain, UK (EU member at the time of the assessment), Netherlands, France, Belgium, and Poland were responsible for 80% of the EU's embodied deforestation through their use and consumption of forest-risk commodities (Wedeux and Schulmeister-Oldenhove, 2021).

These studies highlight the EU as one of the main players in the international trade of FRCs. When reviewing these studies, it is important to highlight that embodied deforestation has been expressed in terms of deforestation risk, or risk to exposure. This means that deforestation attributed to commodity production is a generalization for national or subnational levels and does not provide a direct farm-to-consumer link (Wedeux and Schulmeister-Oldenhove, 2021). This lack of a fine-scale spatial resolution is a limitation to analyse socio-environmental impacts related to trade, since links between producers and consumers can be distorted in countries with heterogenous dynamics in land use change, like Brazil for example (Godar *et al.*, 2015). In this country, deforestation risk associated with soya production has a high geographical variability, and considering a higher spatial resolution, e.g., municipalities, is a way to increase the accuracy in assessing the impact of international commodity trade.

2.2 International efforts to fight against deforestation

Deforestation has received broad international attention in the last years, leading to several initiatives and ambitious commitments. A summary of the key international initiatives targeting deforestation is presented in Table 2 (OECD and FAO, 2023; Gent *et al.*, 2022). This summary presents the Amsterdam Declarations Partnership as the first international state-based initiative specifically addressing agriculture-linked deforestation, which dates to 2015 and is now supported by ten nations. In 2021, the Forest Agriculture and Commodities Trade (FACT) Dialogue brought 27 nations and EU to the discuss the matter of sustainable development and trade of agricultural commodities, including the main producer and consumer countries.

Initiative and year	Involved parties	Short description
New York Declaration on Forests - 2014	40 national governments, as well as several subnational governments, companies, and civil society, community and indigenous peoples' organizations.	The goal is to halt deforestation and restore 350 million ha of degraded land by 2030.
Amsterdam Declarations Partnership - 2015	Belgium, Denmark, France, Germany, Italy, Luxembourg, Netherlands, Norway, Spain, and United Kingdom.	The initiative has the overall ambition to achieve deforestation-free and sustainable commodities, by cooperating with the private sector and producer country actors and their initiatives.
United Nations Sustainable Development Goals - 2016	196 governments.	Goal 15: "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss."
		Target 15.2: "By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally."
Glasgow Leaders' Declaration on Forests and Land Use - 2021	Signed by 141 countries at COP26. COP26 stands for the Conference of the Parties (COP) from the United Nations Framework Convention on Climate Change (UNFCCC), conducted in 2021 in Glasgow, UK.	Halt and reverse forest loss and land degradation by 2030, while delivering sustainable development and promoting an inclusive rural transformation.
Forest, Agriculture and Commodity Trade (FACT) Dialogue - 2021	Roadmap of Action endorsed by 27 governments and EU at COP26.	Consists of a government-to- government dialogue to bring together the largest producers and consumers of internationally traded agricultural commodities to protect forests and other ecosystems while promoting sustainable trade and development and addressing the climate and biodiversity crises.

Table 2: Key international initiatives targeting deforestation	วท
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Adapted from OECD and FAO (2023) and Gent et al. (2022)

Initiatives and commitments to reach global goals must be translated into national policies and can be implemented through several instruments (Lyons-White *et al.*, 2020). In the last years, several consumer countries have put forwards their own demand-side policies to tackle the international trade of illegal and unsustainable forest and agricultural commodities (Sotirov *et al.*, 2022). At first, most of these policies were focused on the trade of wood products. The USA amended Lacey Act (2008), the earlier EU policies on timber trade (FLEGT and EUTR), the Illegal Logging Prohibition Act in Australia (2012), the Clean Wood Act in Japan (2016) and Timber Trade Ordinance in Switzerland (2012) are the main examples (OECD and FAO, 2023).

In 2003, the EU launched the FLEGT Program to tackle the problem of illegal logging and achieve sustainable forest management, both within and outside the EU (European Commission, 2003). In the scope of FLEGT, VPAs would be developed to support commercial partner countries in assuring sustainability in the production of timber being traded with EU. Other target areas of the plan included the promotion of public procurement policies, support for private sector initiatives, safeguards for financing and investments, use of existing legislative instruments or adopt new ones to support the plan and addressing conflict timber (Jonsson *et al.*, 2015).

Later, in 2010, the EUTR was adopted within the framework of the FLEGT Program to regulate the timber market, which prohibited the placing of illegally harvested timber on the EU market and required operators to exercise due diligence (European Commission, 2010). USA, Australia, Japan, and Switzerland (among others) also adopted similar due diligence-oriented approaches for business to check on the legality of timber (OECD and FAO, 2023).

Due diligence is the process where organizations identify, prevent, mitigate, and account for how they address actual and potential adverse impacts in their own operations, their supply chain and other business relationships. The expected outcome is to minimize the potential adverse impacts (or risks) that the organization's activities might have, directly or indirectly, on people, the environment and society (OECD, 2018).

Policies accounting for both forest and agricultural commodities are, however, quite recent. The UK has put forward the Environment Act in 2021, which prohibits the use of illegally produced FRCs by any regulated person. The FRCs covered by the regulation are to be defined in another legislation and could potentially include cattle, cocoa, coffee, maize, palm oil, rubber, and soya, which should be phased in over time (Gent *et al.*, 2022). The requirements include a DDS to assure that local laws were complied with in relation to that commodity. This instrument has been criticized because not all deforestation is conducted illegally in producer countries, leaving a gap to reach deforestation targets (Reis *et al.*, 2021; ClientEarth, 2022b).

In that same year, the USA put forward the Forest Act, which restricts products from illegally deforested land from entering its market after the date of enactment. FRCs included are palm oil, soya, cocoa, cattle, rubber, and wood pulp, as well as products made wholly or in part of a covered commodity. Companies importing from countries identified by the government as having no adequate and effective protection against illegal deforestation must present a declaration, stating that reasonable care was considered to determine and mitigate the risk that commodities and products imported are not originated from illegally deforested land (OECD and FAO, 2023; Gent *et al.*, 2022).

As presented in section 1.1.2, the EU has also recently approved a regulatory instrument in this same direction. The new regulation substitutes the EUTR, which only addressed embodied deforestation partially by minimizing the risk of illegally logged timber entering the EU market (European Commission, 2021c). A closer comparison among these three regulatory instruments, including commodities in scope, prohibition details, business in scope, DDS requirements, country risk assessment and timeframe can be found at Gent *et al.* (2022).

2.3 Voluntary initiatives for deforestation-free supply chains

While governments are developing regulatory measures from the demand side, from a supply perspective private actors are also adopting voluntary initiatives for improved environmental outcomes along the supply chains of agricultural and forestry commodities (Lambin *et al.*, 2018; Grabs *et al.*, 2021; Bager and Lambin, 2022). Some examples are the due diligence for responsible business conduct, disclosure of environmental impacts, ranking of companies, corporate pledges, codes of conducts, voluntary sustainability standards and labels, and communicating products' environmental impacts (Lambin *et al.*, 2018; OECD, 2022).

Corporate pledges stand out as initiatives with particular focus on deforestationfree supply chains, which take the form of collective aspirations or individual commitments. Some noteworthy collective aspirations are the UN Global Compact, the Consumer Goods Forum, the New York Declaration on Forests, the Soy and Beef Moratoria, the Cerrado Manifesto, and the G4 Cattle Agreement, among several others (OECD, 2022).

Individual commitments, commonly in the form of ZDCs, are established at the organization level. These can refer to zero-gross or zero-net deforestation. Gross deforestation means any conversion of forest to non-forested land, while net deforestation considers the balance between losses from deforestation and gains from secondary forest regeneration and tree plantations (Brown and Zarin, 2013). Ultimately, corporate pledges must be translated into mechanisms for implementation and enforcement to deliver the impact expected (Bager and Lambin, 2022; Gollnow *et al.*, 2022; Levy *et al.*, 2023).

ZDCs emerged in the late 2000s following pressure from civil society activism against deforestation, as discussed by Jopke and Schoneveld (2018), with important roles played by non-governmental organizations (NGOs). Later on, the building pressure on producers and manufacturers acquiring FRCs for their operations from non-sustainable sources led to the creation of the Consumer Goods Forum (CGF) in 2009. The CGF brings together more than 400 retailers, manufacturers, and other stakeholders across 70 countries to drive positive change (Consumer Goods Forum, 2023).

In 2010, the CGF committed to zero-deforestation by 2020 for the sourcing of palm oil, soya, beef, and pulp and paper (WWF, 2016). In this process, companies were also pressured to present individual pledges, which led to ZDCs from large transnational corporations (TNCs), such as Unilever, Nestlé, Golden Agri-Resources (GAR) and Wilmar (Jopke and Schoneveld, 2018). This created a corporate momentum for zero deforestation, which culminated in 57 TNCs signing the New York Declaration on Forests in 2014 (Jopke and Schoneveld, 2018).

The state of the art of corporate's ZDCs is monitored by tracking initiatives. This review explores reports published by Forest 500 and the Supply Change initiative, from the non-profit organization Forest Trends. Forest 500 assesses the 350 companies and 150 financial institutions judged to have the greatest exposure to tropical deforestation risk (OECD, 2022). Companies are identified considering size and market share for soya, beef, leather, palm, timber, and pulp and paper. In turn, financial institutions are those most heavily financing these companies, and the initiative checks their policies for palm oil, soya, cattle products, and timber products (Global Canopy, 2022).

The latest report indicated that 29% of the 350 companies assessed had a deforestation commitment for all the FRCs in their supply chains. Additionally, 40% of them had published a deforestation commitment for at least one but not all FRCs. On the other hand, 31% of the companies didn't have a single deforestation commitment for any of the FRCs they are exposed to (Thomson and Fairbairn, 2023). Moreover, only 11% of the 150 financial institutions had policies for all FRCs they were assessed against, while 39% had a deforestation policy for at least one of the FRCs. Even though the number of companies adhering to ZDCs has grown since they first emerged, the current state still falls short in covering comprehensively FRCs supply chains (Burley and Thomson, 2021; Lambin and Furumo, 2023).

The Supply Change initiative evaluated 125 prominent consumer-facing retailers, manufacturers, and traders who source FRCs from the tropics (Rothrock *et al.*, 2022). The assessed companies strongly relied on certification schemes to implement their commitments and minimize deforestation risk (Ellis and Weatherer, 2022). In fact, 88% of them sourced or produced certified commodity materials. Moreover, 42.8% of all 313 commitments identified were certification-based, i.e., sourcing sustainable commodities through third-party certification schemes (Rothrock *et al.*, 2022). This was considered a common corporate strategy, especially for well stablished single-commodity certification schemes, such as palm oil and wood-based products (Rothrock *et al.*, 2022), which is also supported by other studies. Bager and Lambin (2022), for example, investigated how 25 companies from the Forest 500 list implemented their ZDCs, and found that most of the companies (80%) build their ZDC implementation strategies on certifications schemes.

The Carbon Disclosure Project (CDP) is a not-for-profit organization that runs a global disclosure system for investors, companies, cities, states, and regions to manage their environmental impacts. In 2021, 675 companies producing or sourcing palm oil, timber products, cattle products, soya, natural rubber, cocoa, and coffee reported through CDP's forests questionnaire, including producers, processors, traders, manufacturers, and retailers (CDP and AFi, 2022). Results

showed that 445 (65.9%) companies had a policy related to forests or natural ecosystems. Additionally, 245 (36.3%) of them had publicly available companywide no-deforestation or no-conversion policies. Once again, third-party certification schemes were one of the main approaches that companies adopted to achieve compliance with no-deforestation and other sustainability commitments. 65.8% of companies reported to use certification for some of their commodity volumes, mainly for palm oil, wood-based products, and coffee. Furthermore, 23.6% of the companies reported that their no-deforestation or no-conversion commitments were directly linked to certification targets (CDP and AFi, 2022).

Taking a closer look into the EU context, a study from the European Commission (2018b) identified existing policies, legislation and initiatives connected to the EU to address deforestation and forest degradation direct drivers. Table 3 summarizes the voluntary initiatives identified. Further details for each initiative can be found in the original publication (European Commission, 2018b).

initiative group	Description	Examples
Certification systems	Forest certification systems setting standards for forest management and forest product supply chains, along with monitoring and verification, usually by independent third- parties.	 Forest Stewardship Council (FSC) Program for the Endorsement of Forest Certification (PEFC) Rainforest Alliance Timber Legality Verification (formerly SmartWood Verified Legal Origin, VLO)
	Agricultural product certification systems setting standards for agricultural production, usually including environmental and social elements, along with requirements for the commodity supply chains and monitoring and verification systems, often by independent third parties.	 Danube Soya Standard Roundtable for Sustainable Palm Oil (RSPO) certification Round Table Responsible Soy (RTRS) certification Roundtable on sustainable biomaterials (RSB) certification Green Palm Sustainability Better Cotton Initiative (BCI) GLOBALG.A.P. Certification Aquaculture Stewardship Council (ASC, associated with mangrove forests)
CSR	Corporate commitments on deforestation by global and EU actors, such as traders, manufacturers, retailers, focusing on specific commodities, such as soy and palm oil, or a broader range of commodities.	 Commitment to 100% sustainable palm oil in Europe by 2020 by the European Palm Oil Alliance (EPOA) Consumer Goods Forum (CGF) No Deforestation Commitment by ADM (Archer Daniels Midland) Cargill Policy on Forests Sustainable Agricultural Value Chains by Bunge Nestlé Responsible Sourcing Code and Zero Net Deforestation pledge Soft Commodities Compact by the

Table 3: Summary of private sector voluntary initiatives connected to the EU to address direct drivers of deforestation and forest degradation

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Initiative group Description

Initiative group	Description	Examples
	Corporate commitments on deforestation by companies and trade groups headquartered in developing countries, including in countries where deforestation is a major concern.	 Banking Environment Initiative (BEI) Adidas Group Moratorium on deforestation in the Amazon IWAY Forestry Standard by IKEA Deforestation pledge by Tesco Beef Moratorium by the Brazilian Association of Supermarkets Forest Conservation Policy by Golden Agri-Resources (GAR) Soy Moratorium by the Brazilian Association of Vegetable Oil Industries (ABIOVE) and the National Association of Cereal Exporters (ANEC) Wilmar International by Wilmar and Asia P&P
Carbon offset systems	Private schemes developed to provide carbon offsets that can be purchased by individuals or market actors, investing in a variety of projects including afforestation as well as forestry protection and management.	 Asia P&P Carbon Credits from afforestation through the Gold Standard (formerly CarbonFix-Standard), founded by WWF Carbon Credits from afforestation through the Verified Carbon Standard (VCS) by Verra Plan Vivo Offset Project Standard by the Plan Vivo Foundation
Information, accounting, and tracking systems	Tools developed to support, monitor, and assess corporate commitments on deforestation.	 Supply Change by Forest Trends CDP forest programme Forest 500 by Global Canopy Programme (GCP) The Prince's Accounting for Sustainability Project by the Prince of Wales's Charitable Foundation The Forest Trust (TFT) Transformative Transparency platform by the Stockholm Environment Institute (SEI) and Global Canopy Programme (GCP) EU Retail Forum Forest Solutions by the World Business Council for Sustainable Development (WBCSD) European Timber Trade Federation (ETTF)
Technical and financial assistance	Funds and programmes to support nature protection, sustainable goods and other projects that can protect forests and address deforestation drivers.	 Althelia Climate Fund by Althelia Ecosphere EcoEnterprise Fund African Agricultural Capital Fund by Pearl Capital Partners The Schokland Fund by OIKOCREDIT U.A. The Landscape Fund by CGIAR Dasos Timberland Funds by DASOS CAPITAL

Adapted from European Commission (2018b)

The certification systems identified by the study included standards for sustainable forest management, mitigating the adverse impacts of wood extraction, as well as standards for sustainable agricultural production, which often included requirements for preventing agricultural expansion at the expense of forests (European Commission, 2018b). Overall, the studies presented in this section highlight the central role that VSS, especially in the scope of third-party certification schemes, play as voluntary initiatives to address deforestation.

2.4 Voluntary Sustainability Standards and third-party verified schemes

In this section VSS and third-party verified schemes are introduced and discussed in detail.

2.4.1 Definitions

A standard can be defined as "a document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context" (ISO and IEC, 2004).

In turn, VSS can be defined as "standards specifying requirements that producers, traders, manufacturers, retailers or service providers may be asked to meet, relating to a wide range of sustainability metrics, including respect for basic human rights, worker health and safety, the environmental impacts of production, community relations, land use planning and others" (UNFSS, 2013).

The process of demonstrating that requirements specified in these standards are fulfilled is called conformity assessment. Depending on the parties involved in the process, conformity assessment can be classified in (ISO and IEC, 2020):

- (a) first-party conformity assessment: "conformity assessment activity that is performed by the person or organization that provides or that is the object of conformity assessment".
- (b) second-party conformity assessment: "conformity assessment activity that is performed by a person or organization that has a user interest in the object of conformity assessment".
- (c) third-party conformity assessment: "conformity assessment activity that is performed by a person or organization that is independent of the provider of the object of conformity assessment and has no user interest in the object".

Conformity assessment involves different activities, such as (ISO and IEC, 2020):

(a) testing: "determination of one or more characteristics of an object of conformity assessment, according to a procedure".

- (b) inspection: "examination of an object of conformity assessment and determination of its conformity with detailed requirements or, on the basis of professional judgement, with general requirements".
- (c) validation: "confirmation of plausibility for a specific intended use or application through the provision of objective evidence that specified requirements have been fulfilled".
- (d) verification: "confirmation of truthfulness through the provision of objective evidence that specified requirements have been fulfilled".
- (e) certification: "third-party attestation related to an object of conformity assessment, with the exception of accreditation".
- (f) accreditation: "third-party attestation related to a conformity assessment body, conveying formal demonstration of its competence, impartiality and consistent operation in performing specific conformity assessment activities".

Other definitions complementary to the ones above, as well as relevant definitions for the development of this study, are (ISO and IEC, 2020):

- (a) object of conformity assessment: "*entity to which specified requirements apply*".
- (b) conformity assessment body: "body that performs conformity assessment activities, excluding accreditation".
- (c) conformity assessment scheme: "set of rules and procedures that describes the objects of conformity assessment, identifies the specified requirements and provides the methodology for performing conformity assessment".
- (d) impartiality: "objectivity with regard to the outcome of a conformity assessment activity".
- (e) independence: "freedom of a person or organization from the control or authority of another person or organization".
- (f) audit: "process for obtaining relevant information about an object of conformity assessment and evaluating it objectively to determine the extent to which specified requirements are fulfilled".
- (g) attestation: "issue of a statement, based on a decision, that fulfilment of specified requirements has been demonstrated".

It is important to highlight that VSS and certification or other third-party verified schemes are not synonymous. The former establishes requirements for sustainable practices and can be adopted and implemented by any entity, regardless of being checked by third-party. The latter, on the other hand, are schemes grounded on VSS and an assurance system where an independent third-party determines if an entity complies with requirements set in the standards.

This study will focus mainly on VSS in the scope of certification or other thirdparty verified schemes, as they are of particular interest for the aims of the EUDR. The following sections also present the same focus, as literature provides information mainly related to these schemes.

2.4.2 Emergence, growth, and global coverage

Consumer awareness towards sustainability issues grew in the 1990s and resulted in strong environmental movements, such as boycotts and campaigns led by NGOs targeting firms associated with harmful practices (Marx and Depoorter, 2021). The years preceding these movements were marked by a limited state capacity in regulating corporate conduct because of deregulation and structural adjustment reform (Jopke and Schoneveld, 2018). This opened a window of opportunity for non-state actors to fill the regulatory gaps (Utting, 2002; Bartley, 2003; Elkington, 2006; Scherer and Palazzo, 2011).

In this scenario, VSS emerged and proliferated as non-state market-driven governance systems, developing, and implementing environmentally and socially responsible management practices (Cashore, 2002; Marx and Depoorter, 2021). Some of the landmarks from this period were the establishment of FSC in 1994 and the Pan European Forest Certification (PEFC) in 1999 (then, since 2004, Programme for the Endorsement of Forest Certification), focusing on sustainable forest management (Auld *et al.*, 2008). Later, important VSS focused on agricultural commodities highly associated with deforestation were created, such as RSPO in 2002 and the Roundtable on Responsible Soy (RTRS) in 2006 (Jopke and Schoneveld, 2018).

The number of VSS has increased significantly overtime, with a sharp increase between 1990 and 2010 (UNFSS, 2022). In 1990, around 50 VSS existed (UNFSS, 2022). The Standards Map initiative from the International Trade Centre (ITC) provides information for users to navigate the diverse landscape of VSS. At the moment of this review (September 2023), the platform included 336 standards addressing environmental protection, worker and labour rights, economic development, quality and food safety, and business ethics (ITC, 2023). Due to merges, sectorial saturations, and sectorial challenges to establish new VSS, their number has suffered a stagnation in the recent years (UNFSS, 2020). Nevertheless, VSS were found to operate across 600 product groups, 15 industry sectors, and 180 countries (Schleifer *et al.*, 2022).

The land covered by VSS has also increased significantly. Tayleur *et al.* (2017) assessed the global coverage of agricultural VSS by reviewing 12 major certification schemes covering a variety of crops, such as cereals, coffee, cocoa, tea, palm oil, soybean, cotton, sugar cane, fruits and vegetables. The certification schemes analysed spanned across 133 countries and broadly traded commodities were the most common under certification, such as coffee, cocoa, tea, and palm oil. Certification coverage was found to increase from approximately 5.7 million ha in 2000 to 15-25 million ha in 2012, which corresponds to an average 11% annual increase. However, total coverage of global cropland was still quite low, representing around 1.1% in 2012 (Tayleur *et al.*, 2017). Meemken *et al.* (2021) estimated that less than 2% of all agricultural land is certified, considering a total of approximately 4.8 billion ha of agricultural land in 2018, from which less than 80 million ha were certified according to existing VSS (Meier *et al.*, 2020).

ITC publishes annual reports on the evolution of certification for agriculture and forestry. The latest report provided new insights on the certified area for eight agricultural commodities and for forests, based on data from 14 major schemes

(Willer *et al.*, 2022). Results indicated that at least 7.5% of the land used to produce bananas, cocoa, coffee, cotton, oil palm, soybeans, sugarcane, and tea was certified in 2020. This value is probably an underestimation, as a conservative approach was used due to the possibility of multiple certifications (Willer *et al.*, 2022). Accounting for multiple certifications is still a challenge in developing these assessments because many producers are certified by more than one sustainability standard (Meier *et al.*, 2021). For forests, the certification coverage was 11.3% of the world's forest land (Willer *et al.*, 2022).

Data reported for each commodity is summarized in Table 4. In the last year of analysis (2019-2020), certified area decreased for cocoa, coffee, cotton and sugarcane. However, most of the commodities presented an increase in certified area in a 5-year period (2016-2020), expect coffee and soybeans (Willer *et al.*, 2022). A 7% increase was reported for forest certification between 2016 and 2020. In total, 324.6 million ha of forests are PEFC certified, while 221.6 million ha are FSC certified (Willer *et al.*, 2022). Based on joint research, PEFC and FSC concluded that in mid-2022, approximately 86.4 million ha of global forest area were double certified (PEFC, 2023). Most trends were consistent with the previous report (Meier *et al.*, 2021). However, changes in certified land can be highly dynamic, as they are affected by several factors, such as market conditions, changes in schemes' operations, agricultural shifts, sociopolitical challenges, and unusual events such as the Covid-19 pandemic, for instance (Willer *et al.*, 2022).

Certification scope	Certified area (Million ha)	Share of global area (%)	Area growth 2019-2020 (%)	Area growth 2016-2020 (%)
Bananas	0.4 - 0.6	7.0 – 12.5	1.8	26.0
Сосоа	2.6 – 4.7	21.4 – 38.5	-5.5	10.6
Coffee	1.7 – 3.9	15.2 – 35.1	-5.6	-39.0
Cotton	5.7 – 6.2	14.6 – 16.0	-12.8	84.8
Oil palm	3.3 – 3.4	11.6 – 12.1	6.7	32
Soybeans	2.1 – 3.2	1.7 – 2.6	12.0	-20.1
Sugarcane	2.1 – 2.3	7.9 - 8.6	-8.6	100.5
Теа	0.7 – 0.9	14.1 – 18.6	4.9	31.4
Forest	450.8	11.3	4.0	7.0

Table 4: Certification area, share of global area and area growth in two intervals for eight agricultural commodities under 12 certification schemes and for forest under two certification schemes in 2020

Adapted from Willer *et al.* (2022). For agricultural commodities, the range of certified area corresponds to the minimum and maximum values when accounting for the possibility of multiple certifications for the same commodity. Area growth was based on the minimum values.

Cotton was the agricultural commodity with the largest certified area in 2020, with 5.7-6.2 million ha (Figure 1-A), followed by oil palm (3.3-3.4 million), cocoa
(2.6-4.7 million) and sugarcane (2.1-2.3 million). In turn, cocoa (21.4-38.5%), coffee (15.2-35.1%) and cotton (14.6-16.0) were the commodities with the highest proportion of certified land in relation to the respective total crop area (Figure 1-B). Total certified land for the eight commodities was 18.6-25.2 million ha (Willer *et al.*, 2022).



Adapted from Willer et al. (2022).

Figure 1: Total certified area (A) and share of the respective total crop area (B) for eight agricultural commodities under 12 certification schemes in 2020.

Organic certification comprised most the certified land (74.9 million ha), as organic standards cover the widest variety of agricultural products (Figure 2-A). It should be noted that the values reported for organic certification also include permanent grazing areas, which accounted for over two-thirds of the total area certified. Subsequent schemes were RSPO, Rainforest Alliance and GLOBALG.A.P. (Good Agricultural Practices), each of them above 4 million ha (Willer *et al.*, 2022). Organic certification also led the number of producers, followed by Fairtrade, Better Cotton Initiative (BCI), and Rainforest Alliance (Figure 2-B).



Adapted from Willer *et al.* (2022). BCI: Better Cotton Initiative; Rainforest: Rainforest Alliance; RSPO: Roundtable on Sustainable Palm Oil; CmiA: Cotton made in Africa; RTRS: Round Table on Responsible Soy; 4C: 4C Certification. Note: UTZ is now part of the 2020 Rainforest Alliance Certification Program, but data is reported as in the original source.

Figure 2: Total certified area (A) and number of certified producers (B) for 12 certification schemes in 2020.

Because of the extent of the subject, no studies provide data across all existing commodities and VSS. However, the studies presented in this section provide a concise picture of the evolution and state of the art for major commodities and major global-spanning certification schemes.

2.4.3 Potential and limitations of Voluntary Sustainability Standards

Tayleur *et al.* (2017) found that VSS have highly variable environmental requirements and are unlikely to cover all facets of sustainability. For instance, they are generally unsuitable for avoiding all deforestation, often targeting only areas classified as High Conservation Value (HCV) rather than all forests or natural ecosystems. Nonetheless, VSS can potentially contribute to conservation due to requirements for management planning, protection of natural ecosystems and wildlife, provision of on-farm habitat, reduction of invasive species impact, reduction of pollution from agrochemical products, water and soil conservation and many others. Furthermore, VSS operate in tropical regions with high importance for biodiversity conservation and high deforestation rates, such as Central America, Brazil, West Africa, some regions in East Africa and Southeast Asia (Tayleur *et al.*, 2018).

VSS can also contribute to achieving the Sustainable Development Goals (SDGs), as their requirements are highly linked to several SDGs, e.g., no poverty, zero hunger, clean water and sanitation, decent work and economic growth, sustainable consumption and production, life on land (Blankenbach, 2020; Schleifer *et al.*, 2022). However, these requirements must be successfully implemented on the ground to generate impact (Blankenbach, 2020). Therefore,

a key question is whether impacts are achieved on the ground and go beyond documented requirements and procedures (Tscharntke *et al.*, 2015).

Previous literature reviews have found that studies often report that certification has positive or no significant effects across economic, environmental and social variables. Defries *et al.* (2017) reviewed 24 cases from 16 papers analysing the differences between certified households and non-certified households across 347 response variables. Overall, results indicated that certification was associated with positive outcomes for 34% of response variables, no significant difference for 58% of variables, and negative outcomes for 8% of variables.

Garrett *et al.* (2021) reviewed conservation and livelihood outcomes of different forest-focused supply chain policies, namely certifications, codes of conduct, and market exclusion mechanisms. More than half of the 37 cases included in the review found benefits resulting from the policies. Positive livelihood outcomes were more common than conservation additionality and were mainly related to income increase due to higher productivity in coffee and cocoa farms.

Traldi (2021) reviewed 45 studies addressing 13 major agricultural standards. Results showed that economic indicators were the most frequently evaluated, compared to social and environmental indicators. Overall, results were mainly positive (51%), followed by no difference (41%) and negative (8%) outcomes. The study indicated a great imbalance in targeted commodities, since coffee represented 75% of cases analysed, while cotton, sugar, cocoa, soya, and palm oil were under-represented.

Rubio-Jovel (2022) investigated the contribution of VSS to SDGs based on 31 empirical studies, seven systematic reviews and meta-analyses, and 15 reports from grey literature. The SDGs mostly addressed by these studies were no poverty, zero hunger, decent work and economic growth, and life on land. Results indicated that 61-70% of the evaluations showed insignificant effects, depending on the data publication category. Positive significant effects were observed in 26-34% of the cases, while negative significant effects were observed in 4-10% of the cases.

Di Girolami *et al.* (2023) analysed the literature on the environmental impacts of forest certifications and community forest management. After a screening process for rigour and quality, 13 studies were included, and 25 impacts on flora and ecosystem services were reported. Most impacts were positive (64%), while no impact (28%) and negative impacts (8%) were also observed.

The studies mentioned so far investigated the potential of VSS to deliver sustainable supply chains in a broad sense, considering several social, economic, and environmental aspects. However, for the aims of this study, it is particularly important to understand how VSS can impact deforestation. First of all, even though the market for certified products has continued to expand, certification is still the exception and not the rule (van der Ven *et al.*, 2018). This could explain why deforestation associated with agricultural production has not reduced accordingly to the increase of certified agricultural area. In other words, certification simply does not cover enough production and does not have enough market uptake to have a comprehensive impact on deforestation. Therefore, looking at finer scales is necessary to provide evidence on possible

certification impacts on deforestation. For this aim, case studies focused on FRCs relevant to this study are presented next.

Carlson *et al.* (2018) found significant reduction in deforestation in certified oil palm plantations in Indonesia. However, certification was mostly present in older plantations that contained little remaining forest. On the other hand, Gatti *et al.* (2019) found that certification was not effective in stopping deforestation in palm oil concessions in Indonesia, Malaysia, and Papua New Guinea. Certified concessions were subject to more tree removals than non-certified ones, and significant tree loss was identified before and after the start of certification schemes. Additionally, Heilmayr *et al.* (2020) highlighted the risk of spillover from certification schemes, i.e., when deforestation is displaced to areas outside the scope of the initiative. VanderWilde *et al.* (2023) found that oil palm plantations were responsible for 28% of the deforestation in Guatemala between 2009 and 2019, and that 60% of these plantations affected key biodiversity areas. RSPO-certified plantations comprised 63% of the total cultivated area assessed and did not produce a statistically significant reduction in deforestation (VanderWilde *et al.*, 2023).

In Ethiopia, forests under coffee certification, i.e., forests used for wild shadedgrown coffee production, were less likely to undergo deforestation (Takahashi and Todo, 2013 and 2014). In Colombia, tree cover increased more in certified farms than in non-certified ones due to programmes for the protection of forest remnants and riparian vegetation in coffee-growing regions (Rueda *et al.*, 2015). Dietz *et al.* (2021) found no effect of certification on the expansion of coffee farm on former forest land in Honduras. In Brazil, certification had no effect on deforestation and regeneration rates in a coffee-growing region (d'Albertas *et al.*, 2023). In this case, the lack of effect on deforestation could be attributed to the consolidation of the agricultural landscape, i.e., stable composition and dynamics of the landscape were relatively stable in recent decades. However, certified farms were found to restore more sensitive areas (e.g., hilltops and riparian vegetation) than non-certified farms in the Atlantic Forest (d'Albertas *et al.*, 2023).

Studies on the impacts of soya certification are still underrepresented in the literature (Traldi *et al.*, 2021). Garrett *et al.* (2016) discussed that soya certification could contribute to avoiding deforestation because schemes have higher levels of stringency in Brazil and Uruguay. On the other hand, Meijer (2014 and 2015) considered that the effectiveness of soya certification in halting deforestation associated with soya production in Brazil can be limited by unambiguous requirements on agricultural expansion, limited uptake of certification by farmers, and no prevention of leakage.

Studies from Brazil, Mexico, Cameroon and Peru found no significant effects of forest certification on deforestation (Lima *et al.*, 2009; Panlasigui *et al.*, 2015; Blackman *et al.*, 2018). On the other hand, certification was found to reduce deforestation in certified forests in Chile and Indonesia (Miteva *et al.*, 2015; Heilmayr and Lambin, 2016). In the Congo Basin, forest certification did not have a significant effect on deforestation when compared to the effects of having a forest management plan, although certification might assist management plan implementation (Tritsch *et al.*, 2020).

For Meemken *et al.* (2021), the evidence on VSS effects on environmental spheres, such as biodiversity, carbon storage, fire incidence and deforestation, is inconclusive. The authors argue that most studies focus on the plot or farm level, failing to capture possible environmental spillovers and landscape-wide effects. The authors acknowledge that VSS can increase the adoption of environment-friendly farm practices, especially in the case of organic certification. However, this adoption does not necessarily translate into the expected outcomes. For this reason, studies should select and monitor quantitative changes in key environmental parameters that sustainability standards are hypothesized to influence (Milder *et al.*, 2015).

Another issue influencing VSS impact is a probable selection bias. Considering that environmental-friendly farmers are most likely to adopt VSS, there is a limitation in the VSS potential in changing farmers practices, which instead rewards farmers who might already meet or be close to meeting most requirements, thus decreasing additionally (Tayleur *et al.*, 2017; Lambin *et al.*, 2018; Dietz *et al.*, 2021). Furthermore, achieving compliance with VSS can be limited by a number of factors, e.g., costs of implementation and financial capacity, literacy levels, insufficient knowledge and skills, high workload and time-consuming practices, and several others (Oppongand and Bannor, 2022).

The studies available up to this point reveal mixed results across commodity and regions, navigating between positive and neutral impacts (Wolff and Schweinle, 2022). It should be noted that measuring the impacts of certification is quite challenging. Some noteworthy difficulties are the selection of effective research designs, the identification of control groups, the definition of appropriate outcome variables, the dynamic nature of certification schemes, and the challenge of isolating the effects of VSS from other contributing factors (Komives *et al.*, 2018; van der Ven and Cashore, 2018).

Because of such limitations, many studies are considered not to provide credible data on impact assessment (Blackman and Rivera, 2011). For Milder *et al.* (2015), some factors contributing to uncertain results are the focus of literature focused on isolated case studies and limited to a few crops and geographies, unharmonized methodologies that prevent comparative analysis, differences in treatments, outcomes, control variables and data collection protocols, lack of counterfactual comparisons, focus on changes in practices rather than outcomes, and the use of low credibility indicators.

VSS and certification schemes are not strictly defined to provide deforestationfree guarantees, having a broader scope of sustainable production, or even focusing on specific aspects (e.g., focus on labours conditions). However, many schemes include criteria related to deforestation among their requirements, or even have been redesigned to do so, to cover current demands (Grabs *et al.*, 2021). Grabs *et al.* (2021) exemplify the recent changes in the revisions of deforestation-free requirements adopted by RSPO, which introduced a new criterion on the topic, and Rainforest Alliance, which updated the cut-off date for ecosystem conversion for alignment with company commitments. However, these schemes can fall short in providing deforestation-free guarantees, such as loopholes in the requirements, use of traceability system not designed to deliver deforestation-free volumes (e.g., mass balance, book and claim), lack of a geospatial link with productive land that allows monitoring deforestation in real time, among others (Grabs *et al.*, 2021; CDP and AFi, 2022).

On the other hand, the authors also discuss the possible limitations of VSS and certification schemes in providing deforestation-free guarantees, such as predominance of mass balance rules rather than segregation, i.e., allowing the mixing of standard-compliant material with conventional material which affects the full traceability to a deforestation-free source, and the systems for monitoring compliance, which are centred on yearly audits, use sampling strategies in group certification, and do not present a geospatial link with productive land that allows monitoring deforestation in real time (Grabs *et al.*, 2021).

Greenpeace (2021b) published one of the most critical recent studies on certification schemes, assessing their effectiveness as an instrument to address deforestation, forest degradation and other ecosystem conversion and associated human rights abuses. The study included the following schemes: International Sustainability and Carbon Certification (ISCC), Fairtrade, Rainforest Alliance, Indonesian Sustainable Palm Oil (ISPO), Malaysian Sustainable Palm Oil (MSPO), RTRS, Proterra, FSC and PEFC.

Results indicated several gaps and weaknesses in schemes' requirements and functioning. First of all, certification was found not to cover comprehensively several aspects to prevent environmental and social harms. Standards for the same scheme were also found to vary among countries. Schemes were found to permit products associated with deforestation to be "green-labelled" due to traceability systems allowed. Weaknesses were also identified for the assurance systems in place, as well as weak implementation and enforcement of requirements (Greenpeace, 2021b).

In terms of governance, schemes were found to have a large representation of the business sector in their governing bodies, an issue that can influence decision-making in favour of private interests. Moreover, schemes were found to lack group-level accountability, since an organization can be certified while other organizations from the same group can be linked to deforestation and human rights violation, for example (Greenpeace, 2021b).

2.4.4 Voluntary Sustainability Schemes as part of a policy mix

Even though VSS are generally reported as insufficient for achieving zero deforestation on their own, they could play an important role as a complementary tool. In fact, high-complexity problems such as deforestation are generally regulated by a policy mix, which involves a combination of different approaches for reaching environmental targets (Engel *et al.*, 2008; Barton *et al.*, 2017; Furumo and Lambin, 2021; DeValue *et al.*, 2022; Echeverri *et al.*, 2023; Fisher *et al.*, 2023). These approaches include command-and-control regulatory instruments and voluntary market-based approaches, mixing sanctions for misconduct and incentives for good practices (Börner *et al.*, 2020; Naime *et al.*, 2022).

A policy mix consists of policy instruments targeting different actors and addressing multiple goals across several policy sectors and levels, generating a complex arrangement of governance networks (Milhorance *et al.*, 2020). According to Lambin *et al.* (2014), these instruments can interact in different ways and play different roles in policy setting, implementation, and enforcement. The typologies of interactions considered by the authors are:

- (a) complementarity: when the agendas from two governance systems mutually reinforce each other (e.g., private instruments reinforcing and filling gaps in public policies; private instruments sending signals from the civil society for the need of new environmental legislation; governments favouring certified products in their procurement policies),
- (b) substitution: when a governance system replaces another (e.g., governments endorsing certification in public policies and adopting private standards into law; public regulation taking over a function that was previously fulfilled by a hybrid policy), and
- (c) antagonism: when governance systems undermine each other (e.g., public and private instruments prescribing conflicting rules and management practices; governments refusing to endorse more effective labels, contributing to consumer confusion; governments supporting weaker standards competing against more stringent ones).

As another example, Gebara *et al.* (2019) classified policy interactions as complementary, mutually reinforcing, conflicting, interdependent, and redundant. Marques and Eberlein (2021) further discuss private-public interactions and present underlying causes that lead governments reject, adopt, repurpose, or replace private instruments, which in turn can potentially substitute public ones. As the private sector becomes more engaged and accountable, the combination of public and private efforts could potentialize effectiveness of policies instruments targeting environmental problems such as deforestation (Scherer and Palazzo, 2011; Lambin *et al.*, 2018).

Gulbrandsen (2004) argued that forest certification could potentially fill gaps in global forest regimes due to participation of a broader range of stakeholders in standard development, higher capacity of implementation and enforcement compared to state agencies due to regular on-the-ground audits, and the demand for eco-labelled products leading to broader adoption of sustainable forestry practices. However, antagonistic interactions can also occur in some contexts, such as uncertainty on land use rights undermining certification efforts, and the creation of conflicts due to differences in responsibilities, practices and procedures established in public and private instruments (Ningsih *et al.*, 2020; Wyatt and Teitelbaum, 2020). Public and private instruments can also go through an initial period of competition, which ends in reluctant complementarity because commodity-producing countries wish to maintain exports (van der Ven and Barmes, 2023).

Azevedo *et al.* (2017) discuss how market-driven mechanisms could complement the implementation of environmental laws by providing incentives for farmers to adopt sustainable land use practices. Without these incentives, the risk of non-compliance can increase when the adaptation to new rules comes with high costs (Azevedo *et al.*, 2017). d'Albertas *et al.*, (2023) provide a

compelling recent example on how agricultural certification can act as a complementary tool for environmental law compliance. The authors investigated if certification affected native vegetation dynamics across 531 certified farms in a Brazilian coffee-growing region.

No significant effects of certification on deforestation and regeneration rates were found. The authors argue that this result could be associated with a high degree landscape consolidation, i.e., stable landscape composition and dynamics in recent decades. On the other hand, certified farms were found to retore more sensitive areas as required by law (e.g., hilltops and riparian vegetation) than non-certified farms. These areas, called permanent preservation areas, are under a special protection regime and must be maintained with native vegetation or restored. Thus, certification presented a beneficial effect in enforcing legal requirements (d'Albertas *et al.*, 2023).

2.4.5 Voluntary Sustainability Standards in the context of European Union policies

Few studies have evaluated VSS in the context of EU policies. Farmer *et al.* (2007) analysed similarities and differences between mandatory cross compliance standards from the EU Common Agricultural Policy (CAP) and 31 voluntary certification schemes operating in the EU. At the time of the study, farmers covered by the CAP were required to meet two sets of standards: a) Statutory Management Requirements (SMR), linked to EU environmental, public, animal and plant health, and animal welfare legislation, and b) Good Agricultural and Environmental Condition (GAEC) standards, linked to the appropriate soil management and minimum maintenance of agricultural land and its features.

Certification schemes were found to be highly diverse in the coverage of SMRs and GAEC standards, varying from no coverage to full coverage, and even beyond established by the standards when schemes were specialized in the topic. However, results mostly indicated insufficient coverage, as schemes were focused on a specific commodity sector, a farming system, or the quality of the end product rather than taking a holistic view of sustainable farming. Only three schemes were found to fully cover all environmental directives from the SMRs, for example. Thus, the authors concluded that certification schemes did not provide the same horizontal, uniform baseline of minimum standards as does cross compliance (Farmer *et al.*, 2007).

Marx (2018) studied how VSS could be integrated with the EU Generalised Scheme of Preferences (GSP). The scheme provides tariff benefits to least developed countries exporting goods to the EU. The special incentive arrangement for sustainable development and good governance (GSP+) requires that participating states ratify and implement a series of international conventions to get preferential market access (European Commission, 2012). In theory, VSS could bring positive impacts on GPS by directly promoting the implementation of sustainability criteria linked to the conventions (Marx, 2018). Therefore, economic operators under the scheme would be checked by an independent third-party, on top of the check performed at the state level. VSS could be beneficial in this context for reinforcing labour and human rights, sustainable development, and environmental protection, which are the main compliance gaps for GSP+ (Marx *et al.*, 2018). Other benefits would be lowering the implementation and enforcement costs and allowing governing beyond EU borders (Marx *et al.*, 2018). In practical terms, compliance with VSS could be included as part of the documentation analysis in customs check.

On the other hand, VSS were considered not to cover all conventions comprehensively, first because some conventions are out of the ordinary scope of VSS and are targeting mostly states rather than businesses (e.g., conventions on corruption, crime of genocide, or narcotic drugs), but also because VSS are very diverse and do not address applicable conventions at the same levels. While many VSS linked their requirements to the convention for the elimination of child labour, few of them were directly linked to conventions on substances that deplete the ozone layer and climate change, for example. Thus, even though there is room for complementarity, the integration of VSS into the GSP+ policy would require a proper recognition system to identify credible VSS, as well as changes in the standard to internalize conventions required by GSP+ (Marx, 2018).

The role that VSS can play in EU policies is strongly reinforced by the EU Renewable Energy Directive (RED), which establishes a common framework for the promotion of energy from renewable sources. In the RED, voluntary national or international schemes setting standards to produce biofuels, bioliquids or biomass can be recognised through implementation acts as means to provide accurate data for compliance with sustainability and GHG emissions criteria (European Commission, 2018c).

In fact, the RED brings one of the clearest examples of what some authors refer to a transition to a hybrid governance, crediting private initiatives to demonstrate compliance with public policies (Moser and Leipold, 2021; Staricco and Buraschi, 2022). Some concerns with this approach are the costs associated with certification (e.g., membership fees, costs of adaptation to new standards, and auditing costs), gaps in requirements for social sustainability, gaps in procedural rules, and low market share (German and Schoneveld, 2012; Pacini and Assunção, 2014; Man and German, 2017).

Furthermore, Stattman *et al.* (2018) argue this hybrid governance arrangement has resulted in a proliferation of relatively lax, industry-driven sustainability standards. This is because the RED established only three basic criteria for schemes (namely GHG savings, protection of land with high carbon stock, and protection of biodiverse forests and grasslands), without considering other factors for biofuel sustainability and scheme governance, such as inclusivity, equitability, and transparency (Ponte and Daugbjerg, 2015; Stattman *et al.*, 2018).

However, this arrangement in still functioning, and at the time of this review (September 2023) 15 schemes had been recognized and other eight had active applications for recognition (European Commission, 2023b). While some schemes were created with focus on the RED, such as the Polish scheme KZR INiG System (Rogowska *et al.*, 2016), others adapted their systems for certified producers to gain market access. This was the case of the RTRS, for example,

which developed and adapted standards to allow certified producers to meet the RED requirements and supply soya-based biomass, biofuels, and bioliquids to the EU (RTRS, 2022).

The EUTR is another good example of the interplay between VSS and EU polices, which is closely related to the present study. The EUTR stablished procedures for due diligence, which included certification or other third-party verified schemes as relevant risk assessment criteria, as long as they covered compliance with applicable legislation (European Commission, 2010). In this context, Preferred by Nature (2021) investigated to which extent certification and verification schemes in the forest sector covered EUTR requirements. The study was built on an assessment framework based on:

- (a) requirements for certificate holders (CHs) (e.g., rights to harvest, third parties' rights, trade and customs, material control, internal procedures for CHs),
- (b) requirements for certification bodies (CBs) (e.g., competence, qualification, impartiality, auditing process), and
- (c) requirements for certification schemes (transparency, accreditation and oversight, compliance evaluation).

Schemes were found to address indicators of the framework to different degrees. Some of the main gaps identified were:

- (a) although law compliance was broadly addressed by all schemes and covered many aspects of the framework, not all applicable legislation as defined by the EUTR was fully covered (e.g., only FSC fully covered all categories of legal requirements for CHs at the forest level; legal requirements for supply chain entities were either partially covered or not covered),
- (b) chain of custody (CoC) regimes were considered prone to frauds and lacked adequate insurance to capture malpractice of CHs manipulating certified volumes,
- (c) not all schemes had solid requirements to address the risk of corruption by CHs, and cases of conflicts of interest were identified (e.g., in Belarus, the national PEFC standard was developed by state entities, the only accredited CB was accredited by a state agency, and the CHs were state forests),
- (d) CHs were generally allowed to address minor non-conformities (NCs) within 3-12 months and maintain of certificate status even when these were linked to the disrespect of laws, which is not accepted by the EUTR, and
- (e) not all schemes had full transparency by making available online a summary report of audit results (e.g., summary audit reports from PEFC were not available for most countries, and schemes did not require such reports for CoC certification).

These are just some of the results, and the original publication details the findings for each aspect of the framework, as we as for each scheme assessed

(Preferred by Nature, 2021). The overall performance of each scheme is shown in Table 5.

Table 5: Performance of certification and verification schemes in the forest sector and for wood-based products based on the 84 indicators from the assessment framework proposed by Preferred by Nature (2021)

Scheme	Covered	Partially covered	Not covered	Not applicable
FSC	58 (69.0%)	22 (26.2%)	2 (2.4%)	2 (2.4%)
PEFC	30 (35.7%)	39 (46.4%)	14 (16. 7%)	1 (1.2%)
SBP	65 (77.4%)	13 (15.5%)	5 (6.0%)	1 (1.1%)
BV OLB	55 (65.5%)	15 (17.9%)	6 (7.1%)	8 (9.5%)
ISO 38200:2018	11 (13.1%)	48 (57.1%)	25 (29.7%)	-

Adapted from Preferred by Nature (2021). FSC: Forest Stewardship Council; PEFC: Programme for the Endorsement of Forest Certification; SBP: Sustainable Biomass Program; BV OLB: Origine et Légalité des Bois; ISO 38200:2018: CoC of wood and wood-based products.

The study concluded that certification schemes could provide significant support to operators in their efforts to meet the EUTR due diligence obligations. Certification was also considered a cost-effective measure, as operators could achieve a high degree of confidence in their sourcing without great efforts and resources when compared to conducting risk assessment independently. However, because of several gaps and weaknesses in their requirements, assurance systems and governance, a certified product could not be automatically deemed as compliant with the EUTR, and operators should incorporate other measures (Preferred by Nature, 2021). Gavrilut *et al.* (2016) reached a similar conclusion when evaluating the interactions between FSC certification and the implementation of the EUTR in Romania, highlighting that the standards assist specially in the risk assessment and risk mitigation procedures required for the due diligence, but present significant shortcomings.

3. Research methodology

In this chapter the research methodology is presented. In section 3.1, the assessment framework developed for this study is described. Section 3.2 deals with the application of the assessment framework on ISEAL community members. In section 3.3, a methodology for targeting producer countries to apply the framework is proposed.

3.1 Assessment framework

This section provides details about the assessment framework adopted for the aims of this study.

3.1.1 Overview and background

According to Article 3 of the EUDR, relevant products can only be placed in, or exported from the EU market if they present the following features:

- (a) they must be deforestation-free,
- (b) they must be produced in accordance with the relevant legislation of the country of production, and
- (c) they must be covered by a due diligence statement.

Item (c) is EUDR-specific, as the due diligence statement is a document with structure and content specified in Annex II of the EUDR. In this document, operators must confirm that no or negligible risk of non-compliance with the EUDR was found. As such, this requirement falls outside the ordinary scope and aims of VSS, and therefore was not considered for the aims of this assessment.

Nevertheless, VSS could play a significant role in supporting the assessment of items (a) and (b), as deforestation and illegal activities are inherent risks in the production and trade of the commodities and products within the scope of the EUDR. This potential role is reinforced by item (n) of Article 10(2) of the EUDR, which states that certification or other third-party verified schemes (hereinafter referred to just as schemes) can be used as sources of complementary information on compliance.

Hence, this framework aims to explore whether these schemes can effectively provide assurance and information to enable operators to ascertain if commodities and products are deforestation-free and produced in accordance with the relevant legislation, in consistency with the specifications outlined in the EUDR. For the aims of this research and consistently with EUDR terminology, operators are defined as *"any natural or legal person who, in the course of a commercial activity, places relevant products on the market or exports them"*.

Operators must exercise due diligence to assure compliance with items (a) and (b) of Article 3 and conclude no or negligible risk of non-compliance. According to Article 8(2), due diligence includes:

- (a) "the collection of information, data and documents needed to fulfil the requirements set out in Article 9,
- (b) risk assessment measures as referred to in Article 10, and
- (c) risk mitigation measures as referred to in Article 11."

Thus, the framework builds on the requirements for due diligence laid down in Articles 9, 10 and 11, as well as the definitions laid down in Article 2.

3.1.2 Framework structure

Based on information reported in paragraph 1.1, the assessment framework was structured into 3 principles broken down into 8 criteria, 24 indicators and associated verifiers/guidelines. To this aim, the hierarchical framework defined by Lammerts van Bueren and Blom (1997) was used to break down the overall goal into parameters that can be managed or assessed (Figure 3). The following definitions were adopted (Lammerts van Bueren and Blom, 1997):

- (a) **Principle**: A fundamental law or rule, serving as basis for reasoning and action. Principles are explicit elements of a goal.
- (b) Criterion: A means of judging whether a principle has been fulfilled.
- (c) **Indicator**: An indicator is a quantitative or qualitative parameter which can be assessed in relation to a criterion.
- (d) **Verifier**: The source of information for the indicator or for the reference value for the indicator.



Adapted from Lammerts van Bueren and Blom (1997).

Figure 3: Exemplification of the hierarchical framework approach.

The framework was also inspired by reviewing previous studies with similar scopes, especially regarding scheme structure, assurance system and transparency (e.g., Hinkes and Peter, 2020; Greenpeace, 2021; Preferred by Nature, 2021).

The three overarching principles of the framework are defined and described below.

Principle A: Requirements that commodities and products are deforestation-free and produced in accordance with legislation.

This principle is built on information requirements for due diligence according to Article 9(1). Criteria were designed to determine if schemes present requirements that characterize standard-compliant material as deforestation-free and produced in accordance with relevant legislation, according to requirements laid-down by items (g) and (h) of Article 9(1) of the EUDR.

The guidance on how to determine if EUDR requirements are covered by the schemes is drawn on definitions provided in Article 2, where details on the meaning of deforestation-free and relevant legislation are provided.

Principle B: Requirements for information traceability and risk management in the supply chain.

This principle is built on information requirements for due diligence according to Article 9(1) and on risk assessment and risk mitigation requirements according to Article 10(2) and Article 11(1) of the EUDR. More specifically, it refers to relevant information and procedures along the supply chain of the relevant products, including record-keeping and segregation of standard-compliant material, as well as control of material from other (e.g., non-certified) sources.

It first addresses the existence of a mandatory traceability system to support traceability of information throughout the supply chain of targeted commodities and products. It also checks if schemes can cover items (a) to (f) in Article 9(1), which specify a series of information regarding production and commercial transactions, so this information is traceable and available for operators.

Then, it addresses risk management of the supply chain. This concern was integrated to the framework to cover item (j) of Article 10(2), related to the risk of mixing with products of unknown origin or produced in areas where deforestation or forest degradation has occurred or is occurring. The first step is to check the existence of mechanisms to avoid mixing with material from other sources. For schemes allowing mixing of scheme-compliant material with material from other sources (e.g., mixing of certified material and non-certified), it addresses requirements that material from other sources is also deforestation-free and produced in accordance with relevant legislation according to Principle A, as well as requirements for risk assessment and risk mitigation, in consistency with EUDR requirements.

Principle C: Scheme structure, assurance system and transparency.

Besides determining the potential of schemes in providing assurance and traceable information that commodities and products are deforestation-free and legally produced, the assessment framework also addresses their reliability in doing so. Thus, Principle C does not refer to EUDR requirements, but rather provides criteria and indicators to assess scheme reliability for providing information to assess Principles A and B.

Principle C deals with aspects related to structure and governance of the schemes, such as consistency between international and national standards, compliance assurance, conformity assessment, corruption and transparency. This principle is relevant because some schemes can have strong requirements but fail to deliver impacts on the ground because of weak implementation and enforcement (Greenpeace, 2021).

A short version of the assessment framework containing principles, criteria and indicators (verifiers and guidelines not included) is presented in Table 6. Annex 2 reports the assessment framework in full.

Principle and criterion	Indicator
Principle A. Requirements that co in accordance with legislation	ommodities and products are deforestation-free and produced
A.1 Requirements for deforestation-free commodities and products	A.1.1 The scheme presents a clear prohibition of deforestation and forest degradation
	A.1.2 The definitions of forest, deforestation and forest degradation match or encompass the definitions from the EUDR
	A.1.3 The scheme presents a cut-off date for deforestation and forest degradation that is equal or previous to 31 st December, 2020
A.2 Requirements for commodities and products produced in accordance with legislation	A.2.1 The scheme presents a clear requirement for production in accordance with the relevant legislation in the country of production
	A.2.2 The applicable legislation encompasses all the categories specified in the EUDR
	A.2.3 The scheme requires that subcontractors operate in accordance with legislation
Principle B. Requirements for info	prmation traceability and risk management in the supply chain
B.1 Information traceability	B.1.1 The scheme requires a mandatory traceability system
	B.1.2 The scheme requires that information on production and c ommercial transactions are recorded and kept for at least five years
B.2 Risk management of supply chain	B.2.1 The scheme provides mechanisms to assure that standard-compliant material is segregated from other sources
	B. 2.2 The scheme requires that material from other sources is deforestation-free
	B.2.3 The scheme requires that material from other sources is produced in accordance with the relevant legislation in the country of production
	B.2.4 The scheme requires adequate measures for risk assessment and risk mitigation

Table 6: Principles, criteria and indicators of the assessment framework

Principle and criterion	Indicator						
Principle C. Scheme structure, ass	Principle C. Scheme structure, assurance system and transparency						
C.1 Consistency between international and national level standards	C.1.1 The scheme presents consistency between international and national standards						
C.2 Requirements for compliance assurance by verified parties	C.2.1 The scheme requires that verified parties have adequate policies, controls, and procedures for compliance assurance						
	C.2.2 All documentation for compliance with the scheme must be kept for at least five years						
C.3 Requirements for conformity assessment	C.3.1 Non-compliance with deforestation-free and legality requirements prevents compliant status						
	C.3.2 Conformity assessment is conducted by a legal, impartial, and qualified organization						
	C. 3.3 The scheme requires periodic checks or re- assessment of verified parties						
	C.3.4 Conformity assessment has minimum requirements for information sources and sampling strategies for assuring effective auditing						
	C.3.5 The scheme provides mechanisms to assure compliance by all members under a group verification						
C.4 Transparency and corruption	C.4.1 The scheme makes publicly available the full requirements for verified parties and conformity assessment bodies						
	C.4.2 The scheme makes publicly available the status of verified parties						
	C.4.3 The scheme makes publicly available a summary of audit reports that contains methodology and main findings, including non-compliances						
	C.4.4 The scheme presents policies, controls, and procedures to identify and manage risk of corruption						

It is important to note that the meaning of "adequately conclusive and verifiable *information*" stated in items (g) and (h) of Article 9(1) is not objectively defined, as no types of information, data or documentation are specified. Therefore, guidelines on how to determine if information provided by schemes can be considered acceptable in terms of the EUDR are not available yet. However, this study considers that the provision of adequate information can be potentially achieved by a combination of covering Principles A and B (dealing with EUDR requirements) and, at the same time, Principle C (dealing with the reliability of compliance with the EUDR). This would mean that EUDR requirements are covered and adequately checked by a third-party. Future developments of the implementation of the EUDR could provide further insights on this matter.

3.1.3 Data collection

A full assessment based on the above-presented framework is expected to collect data in two stages:

- (a) **Document analysis:** This includes all information that is publicly available from the scheme, such as standards, guidance/interpretation documents, supporting documentation, spreadsheets, lists, reports and any other documents deemed as relevant to assess an indicator. The number and type of available documents might vary depending on the scheme.
- (b) **Surveys:** This includes data collected from personnel related to the scheme, through surveys applied via face-to-face interviews (in person or online) or questionnaires. This step is important to further complement evidence from document analysis, as well gather evidence on the standard implementation on the ground based on field experience and going beyond documented procedures. Relevant targets include personnel from the standard-setting organizations, conformity assessment bodies and verified parties. Survey development and mapping of relevant stakeholders should be conducted case-by-case, as each standard is expected to present a particular necessity of evidence complementation after document analysis and key actors might vary.

The second stage is relevant to assess scheme functioning and gather extensive evidence for some of the indicators, as well as specific interpretations about the standard implementation on the ground based on field experience and going beyond documented procedures. This stage might also provide useful information about ongoing or expected developments, changes, and updates for each scheme. Due to time and resource constraints, it was not possible to perform surveys for the aims of this thesis, therefore data collection was solely based on secondary data (i.e., document analysis as described above).

3.1.4 Data analysis

Schemes are to be assessed against each indicator, based on the guidelines/verifiers that accompany them. Each indicator should be classified according to levels described in Table 7, representing to which extent schemes cover indicators of the framework assessment.

Outcome	Description	Example
Fully covered (FC) There is enough evidence to conclude that the scheme fully covers the indicator.		Standard states that forest conversion into agriculture is not allowed.
		Therefore, indicator A.1.1 is

 Table 7: Possible outcomes for indicators of the assessment framework

Outcome	Description	Example
		fully covered.
Partially covered (PC)	Evidence indicates that the scheme only partially covers the indicator, leaving a gap to fulfil all requirements detailed in the verifiers/guidelines.	Standard includes land use rights, environmental protection and third parties' rights as relevant legislation, but do not address trade and customs regulations.
		partially covered.
Not covered (NC)	Evidence indicates that the indicator is not covered at all by the scheme.	The scheme does not disclose any information or documents related to audits of verified parties.
		Therefore, indicator C.4.4 is not covered.
Not applicable (NA)	Indicator does not apply because the subject does not fall within the scope of the scheme.	The scheme does not allow mixing of standard-compliant material with material from other sources.
		Therefore, indicators B.2.2, B.2.3 and B.2.4 are not applicable.

3.2 Application of the assessment framework: a pre-assessment on ISEAL community members

Given the large number of international standards dealing with commodities under the scope of EUDR, it is indispensable to define a common ground to limit the number of standards to be included within the scope of this study and keep it affordable and manageable. The guiding criterion defined as a first filter for the inclusion of a scheme in the study was the status of ISEAL community member. This approach was selected because ISEAL gathers a series of global-spanning organizations with particular focus on environmental and social issues.

ISEAL is an international reference for the setting of social and environmental standards, defining codes of good practice and credibility principles for members to improve their sustainability systems (Loconto and Fouilleux, 2014; ISEAL, 2021). An assessment conducted on February 2023 revealed that 43 internationally relevant organizations from several fields were ISEAL community members, including organizations setting environmental and social standards for agriculture and forestry.

A search was conducted to determine standard-setting organizations to be included in this study. Three filters were applied: a) the organization must cover at least one of the commodities within the scope of the EUDR, b) the standards must be within the scope of a certification or other third-party verified scheme, and c) the scheme must have a relevant operation in tropical countries. This

search revealed five standard-setting organizations for inclusion in the study (Table 8).

Scheme	Commodities
Fairtrade International	Cocoa and coffee
Forest Stewardship Council (FSC)	Wood
Rainforest Alliance	Cocoa and coffee
Roundtable on Sustainable Palm Oil (RSPO)	Oil palm
Round Table on Responsible Soy Association (RTRS)	Soya

Table 8: Select s	schemes and	covered	commodities
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Each of these organizations are part of a certification or other third-party verified scheme (referred only as schemes from this point). They have published one or more standards covering sustainable production and supply chain. They are also among the main schemes for some of the commodities within the scope of the EUDR. Nonetheless, no schemes covering cattle and natural rubber were selected, which were not addressed in this application of the framework.

Some other relevant standard-setting organizations and their associated VSS were also identified during this search but did not meet the inclusion criteria. Global Coffee Platform (GCP) and Sustainable Agriculture Network (SAF) set standards for sustainable agricultural production but are not part of a certification or other third-party verified scheme. GLOBALG.A.P. is a certification scheme and covers commodities that are relevant to this study as certifiable products under this scheme include cattle, calves, young beef, and palm oil kernel. However, these commodities represent only a small share of the total area certified by the scheme, which operates mainly in Europe. Similarly, LEAF Margue also covers relevant commodities, such as beef cattle, cattle breeding stock, dairy cattle, young cattle, oil palm and soybean, but as in the previous case they contribute marginally to the total certified area as the scheme operates mainly in the UK. Based on above-reported considerations and given the aim of this study to cover broadly relevant VSS that might have significant impacts on the market for EUDR-relevant commodities, GCP, SAF, GLOBAL.G.A.P., and LEAF Marque were not included in this assessment. Of course they might play a role in the future implementation of the EUDR and we do not intend to neglect this, however they were not included within the scope of this exploratory study.

A further investigation was conducted to analyse, to the extent possible, the implementation of the selected schemes in terms of geographical distribution, number of verified parties and other relevant aspects. Then, relevant standards and other relevant documents published by the schemes were mapped as relevant data sources and used as evidence for the assessment.

The assessment of a single scheme consisted of filling a check-list reporting the outcome for each indicator, which was properly justified with the support of evidence found in the data sources. Results from all schemes were summarized

in charts, displaying overall results and by criterion, highlighting schemes' strengths and weaknesses. Results for each scheme were also presented individually.

Due to time constraints for the development of this study, only a preassessment was conducted for the selected schemes, i.e., only the first stage of data collection, which is document analysis based on publicly available information. A full assessment accounting for further data collection by applying surveys could be conducted as a next step of this study, providing a more comprehensive picture.

3.3 Targeting producer countries

The wide range of possible data sources can lead to challenges in data collection. For global-spanning schemes, multiple national standards might be available, as well as several regional offices and conformity assessment bodies operating in each country. This might make impossible collecting data across all levels. Moreover, many schemes might be available for a single commodity, thus requiring a pre-selection of countries to short-list potential schemes to be included in the analysis.

These challenges call for a procedure to prioritize countries to apply the assessment framework. This study proposes a prioritization procedure based on the deforestation risk associated with commodity trade between the EU and producer countries. Pendrill *et al.* (2020, 2022) provide datasets on the deforestation risk associated with bilateral trade. The last version of the dataset (v1.1) was used for most commodities, providing data between 2005 and 2018 (Pendrill *et al.*, 2022). However, the latest version did not include wood. For this reason, the previous version (v1.0) was used only for wood, providing data between 2005 – 2017 (Pendrill *et al.*, 2020). Based on these datasets, the top 5 producer countries from which the EU imported deforestation from were identified for each commodity. These were classified as the priority countries for the application of the assessment framework. The list of countries belonging to the EU at the time of this study is provided in Annex 3.

It must be noted that commodities' categories in the datasets do not fully match commodities covered by the EUDR. Thus, the closest related categories available were used as proxies to determine the priority countries for each commodity (Table 9). This might create some discrepancy and lead to some under estimation (e.g., in the case of cattle, only beef in considered and other products, such as leather, are not taken into consideration; in the case of palm oil, only palm oil fruit is considered, leaving behind other derived products, and so on) or super estimation (e.g., in the case of cattle, both beef and buffalo meat are considered in the same category, while buffalo meat is not in the scope of this study). However, these datasets were the only sources of publicly available data identified that allowed developing a prioritization procedure for all the commodities addressed in this study.

EUDR commodity	Proxy commodity	Source
Cattle	Beef and buffalo meat	Pendrill et al. (2022)
Сосоа	Cocoa beans	Pendrill et al. (2022)
Coffee	Green coffee	Pendrill et al. (2022)
Oil palm	Palm oil fruit	Pendrill <i>et al.</i> (2022)
Rubber	Natural rubber	Pendrill <i>et al.</i> (2022)
Soya	Soybeans	Pendrill <i>et al.</i> (2022)
Wood	Wood products (forest plantation)	Pendrill <i>et al.</i> (2020)

Table 9: EUDR commodities and proxy commodities in datasets on deforestation risk associated to bilateral trade

Nevertheless, the overall approach proposed is expected to improve the applicability of the results, since the data collected will be linked to the main countries exporting deforestation to the EU for a given commodity. Another potential weakness of this method is the temporal variability of trade relations. This could mean, for example, that a country classified as priority was a relevant source of deforestation risk in the first years of analysis but was no longer relevant in more recent years.

Thus, a further step was taken to analyse if this approach is consistent. For this purpose, every producer country placed in the top 5 for at least one year of the datasets was analysed. The deforestation risk associated with all these countries was plotted in stacked area charts for trend analysis.

4. Results

In this chapter the results are presented. Section 4.1 presents an overview of the selected schemes, including a summary of the extent of their implementation and the list of standards and other relevant documents used as data sources for the application of the assessment framework. In section 4.2, results from the application of the assessment framework on the selected schemes are presented. First, findings are presented for all schemes, with the highlights of overall results and by criterion. Then, in 4.3 the individual performances of each scheme are presented in the following subsections, providing more details. Finally, in section 4.2, the priority producer countries for the application of this framework are presented.

4.1 Overview of the selected schemes

This section presents an overview of the selected schemes, covering their general information as well as the extent of their implementation. Information was collected on the websites of the standard-setting organizations, with particular focus on annual reports, webpages containing figures of impact assessments, and other library and database resources available. The figures provided in this section reflect the values encountered at the time of this assessment (September 2023), and they might change quickly according to dynamic updates on databases and websites, as well as publishing of new reports. The full list of the websites used for this study is presented after the list of quoted literature.

4.1.1 Fairtrade International

Founded in 1997, Fairtrade International is a non-profit, multi-stakeholder association, with focus on small-scale farmers and workers in developing countries. Fairtrade supports producers by setting Fairtrade Minimum Prices to cover the costs of producing their crops sustainably and guarantee fair income. Moreover, the Fairtrade Premium provides an additional sum of money that farmers and workers invest in projects of their choice.

Fairtrade Standards incorporate social, economic and environmental criteria. For farmers, workers and other primary producers, they are distributed in three pillars: 1) standards for small-scale producers, 2) standards for hired labour organizations, and 3) standards for contract production. Each of these consists of a set of applicable standards, including commodity-specific documents, from which cocoa and coffee are relevant for this study.

In addition to agricultural standards, Fairtrade also has a gold standard for small-scale artisanal mines. For companies, manufacturers, purchasers and others, three standards are available: trader standard, climate standard, and textile standard. Compliance assurance is provided by FLOCERT, Fairtrade's independent auditing and CB. FLOCERT is an ISO/IEC 17065 accredited enterprise. ISO/IEC 17065 is an international ISO standard for conformity assessment, laying down requirements for CBs certifying products. Accreditation is issued by the German National Accreditation Body (Deutsche

Akkreditierungsstelle, DAkkS) and covers all Faitrade standards but those for Precious Metals, Climate and Textile.

The latest monitoring report available, indicated 1,930 Fairtrade certified producer organizations in 70 countries in 2021 (Fairtrade, 2021). This number grew from 1,210 certified producer organizations in 2013. From the total, 81% are small-scale producer organizations, i.e., organizations whose legal members are individual small-scale farmers. These are not structurally dependent on permanent hired labour and who manage their production activity mainly with family workforce. The remaining producer organizations are divided into hired labour (18%) and contract production (1%). Producer organizations sum up to 1,846,787 farmers and 181,862 workers (2,028,649 overall).

Most producer organizations are in Latin American and the Caribbean region (50.3%), followed by Africa and Middle East (34.2%) and Asia (15.5%), which represent the three regional Fairtrade networks.

The full range of products covered by Fairtrade Standards includes bananas, cocoa, coffee, flower, sugar, tea, cotton, fruit/juices, herbs and spices, honey, nuts/oils, quinoa, rice, vegetables, wine, gold, sport balls, textiles, carbon¹ and composites. However, the top 7 products (coffee, tea, cocoa, flowers and plants, sugar, cotton, and bananas) account for 96% of all certified farmers and workers, with coffee (43%) and cocoa (23%) – both falling within the scope of EUDR – as the leading crops. They also represent the largest share of Fairtrade certified land. From the 3,058,525 ha of certified land reported for 2021, coffee represented 49.8% (1,523,686 ha) and cocoa 37.7% (1,153,327 ha).

At the time of this assessment (September 2023), Fairtrade's database² indicated 4,387 businesses certified under the trader standard.

4.1.2 Forest Stewardship Council (FSC)

FSC was founded in 1993 as a voluntary certification for sustainable forestry, promoting environmentally sound, socially beneficial, and economically viable management of the world's forests. Today, FSC is the global leader scheme in sustainable forest management (FM) certification.

FSC sets standards for responsible forest stewardship and provides solutions for several actors in the forestry sector. FSC provides the following services for forest managers: 1) FM certification for corporate and individual organizations, 2) FM certification for community and family forests, and 3) ecosystem services claims for forest managers. The second service includes approaches directed to smallholders, such as group certification and certification of small or low-intensity managed forests (SLIMF). For manufacturers, retailers, brands, or builders, FSC provides CoC certification, and project certification.

¹ To develop the Fairtrade Climate Standard allowing to sell carbon credits, Fairtrade International had teamed-up with Gold Standard.

² <u>https://www.fairtrade.net/finder</u>

CBs accredited by Assurance Services International (ASI) perform audits and manage certificates, making sure standards are implemented correctly on the ground. International FM standards are adapted to regional, national, or subnational levels by standards development groups.

At the time of this assessment (September 2023), FSC's database³ indicated 160,372,146 ha of certified forest in 81 countries. Most of the certified area is concentrated in North America (38.2%) and Europe (35.6%), followed by Latin America (11.3%), Africa (6.3%) Asia-Pacific (5.7%) and Commonwealth of Independent States – CSI (2.8%).

Moreover, there were 1,498 certificates for FM/CoC, and 56,997 certificates for CoC. CoC certificates were mainly present in Europe (51.0%) and Asia-Pacific (39.7%). More than 1,600 companies are licenced to promote FSC-labelled products.

4.1.3 Rainforest Alliance

Rainforest Alliance is an international non-profit organization operating at the intersection of business, agriculture, and forests for responsible farming and business practices. The alliance promotes forest protection, improves the livelihoods of farmers and forest communities, indorses their human rights, and help them mitigate and adapt to the climate crisis. It was established in 1987 and has been expanding its operations ever since.

The organization conducts the 2020 Rainforest Alliance Certification Program. The Sustainable Agriculture Standard is the cornerstone of the program, alongside its assurance and technology systems. The standard is divided in farm requirements and supply chain requirements depending on the certification scope, and several supporting documents are available, including forms and templates, terms and conditions, and policies and rules.

The Sustainable Agriculture Standard is adopted by millions of farmers and thousands of businesses, seeking to deliver more sustainable agricultural production and responsible supply chains. Rainforest Alliance has also incorporated UTZ Certification since 2018, a former programme for sustainable farming that is now integrated in the 2020 Rainforest Alliance Certification Program, being gradually phased out.

The assurance system is guided by two documents: the 2020 Rainforest Alliance Certification and Auditing Rules, and the 2020 Rainforest Alliance Rules for CBs. Authorized CBs must be ISO/IEC 17065 or ISO/IEC 17021 (latest versions) accredited and comply with a set of conditions. Accreditation must be provided by an accreditation body that is a member of the International Accreditation Forum (IAF) and has signed a multilateral agreement (MLA) with IAF, or that is a full member of ISEAL Alliance.

The certification programme covers a variety of crops, including fruits, vegetables, nuts, flowers, and spices and herbs. At the moment of this

³ <u>https://connect.fsc.org/fsc-public-certificate-search</u>

assessment (September 2023), Rainforest Alliance's database⁴ indicated the existence of 6,814 granted licenses across 113 countries, distributed in 3,199 licenses for farming only (47.0%), 192 licenses for both farming and supply chain (2.8%), and 3,423 licenses for supply chain only (50.2%).

Farming licenses (alone or combined with supply chain) cover 70 countries and are distributed as follows: 43.7% in Latin America, 42.7% in Africa, 13.0% in Asia and Pacific, 0.4% in Europe, and 0.2% in North America.

Supply chain licences (alone or combined with farming) cover 98 countries and are distributed as follows: 55.5% in Europe, 17.3% in Asia and Pacific, 15.9% in Latin America, 6.3% in North America and 5.0% in Africa.

According to the latest report, data from 2021 indicated around 4 million farmers and workers on certified farms, as well as more than 6 million ha of certified farmland, accounting both Rainforest Alliance and UTZ certification, across 70 countries (Rainforest Alliance, 2022b). Products with Rainforest Alliance Certified seal or UTZ label were available in more than 175 countries.

Cocoa, coffee, tea, and banana are the four leading commodities in terms of certified farms, certified area and geographical distribution. Data for cocoa and coffee is presented next in more details, as they are within the scope of this study.

In 2021, cocoa certification reached more than 2.5 million ha and more than 800 thousand farmers. This figure combines both Rainforest Alliance and UTZ cocoa certification. Farmers were distributed in ten countries in Latin America, seven countries in Africa, and three countries in Asia. Côte d'Ivoire and Ghana were the main producers of Rainforest Alliance certified cocoa, with 45.9% and 20.0% of all production respectively and smaller contributions of other countries.

In that same year, coffee certification reached more than 1 million ha and more than 475 thousand farmers, also considering Rainforest Alliance and UTZ cocoa certification. Farmers were distributed in ten countries in Latin America, eight countries in Africa, six countries in Asia and one country in North America. Brazil and Colombia were the main producers of Rainforest Alliance certified coffee, with 30.5% and 22.2% of all production respectively and smaller contributions of other countries.

4.1.4 Roundtable on Sustainable Palm Oil (RSPO)

RSPO is a non-profit organization focusing on integrating stakeholders from across the palm oil supply chain to develop and implement global standards for sustainable palm oil. Stablished in 2004, RSPO now represents over 5,000 member organizations globally, including oil palm producers, processor and traders, consumers, retailers, banks and investors, and NGOs.

⁴ <u>https://www.rainforest-alliance.org/business/certification/certificate-search-and-public-summaries/</u>

RSPO maintains a set of standards containing the set of environmental and social criteria that must be complied with to produce RSPO certified sustainable palm oil. The applicable standards depend on the producer's or organization's profile. The 2018 Principles and Criteria Standard seeks to ensure that oil palm is grown and produced sustainably. The 2019 Independent Smallholder Standard aims to improve livelihoods and increase inclusion of smallholders through a simplified approach to certification. The 2020 RSPO Supply Chain Certification Standard seeks to ensure spalm oil sold as 'sustainable palm oil' has been produced by certified plantations.

Other relevant standards are the 2021 New Planting Procedure (NPP) Standard, the 2021 Jurisdictional Approach Standard, and the 2022 Group Certification Standard. CBs accredited by ASI conduct audits to evaluate members' compliance against the RSPO standards.

The total certified area in 2021 was 4,564,086 ha (RSPO, 2022b). Producers are mainly distributed in Asia, Africa, Latin America. Indonesia and Malaysia are by far the leading producer countries, representing 2,307,057 ha (50.5%) and 1,260,166 ha (27.6%) respectively of the total area certified under the Principles and Criteria Standard. In 2021, RSPO certification has included 165,462 smallholders in 14 countries. Collectively, RSPO smallholders operated an area of nearly 416,791 ha.

At the time of this assessment (September 2023), RSPO's database⁵ listed 129 certificates as active for producers under the Principles and Criteria Standard, in 15 countries. The number of active certificates for independent smallholders was 92, corresponding to groups of several sizes. More than 165,000 smallholders operated an area of nearly 417,000 ha in 14 countries (RSPO, 2022b). Finally, 2,737 active CoC certificates were identified in the RSPO's database⁶. The main countries with CoC certificates are USA (9.8%), Germany (9.6%), UK (8.6%), Italy (5.4%), and China (5.0%).

4.1.5 Round Table on Responsible Soy Association (RTRS)

RTRS is a non-profit organization promoting the growth of production, trade, and use of responsible soya. Created in 2006, RTRS works in cooperation with actors in the soya value chain, from production to consumption, to create a global platform for multi-stakeholder dialogue on responsible soy. Since 2010, RTRS is also responsible for a global certification standard.

There are two types of certification, i.e., production and CoC. For production, the scopes covered by certification are soybean production, biofuels (in compliance with the European Commission – Renewable Energy Directive, RED), non-GMO (genetically modified organisms) soya production, and corn production. The latter is complementary to certification of soybean production

⁵ <u>https://rspo.org/search-members/certified-growers/</u>

⁶ https://rspo.org/search-members/supply-chain-certificate-holders/

for producers that are willing to include corn production in certified farms. In turn, CoC addresses the possible traceability systems, as well as specific CoC certification for non-GMO and Biofuels products.

Compliance assurance is provided by CBs, responsible for auditing and certifying against RTRS standards, and that shall be accredited by national accreditation bodies. RTRS certification is a global standard, but requirements are adjusted to meet local conditions and legislation in each individual country. National Interpretations (NIs) are available for Argentina, Bolivia, Brazil, Canada, China, India, Paraguay, and Uruguay.

In 2021, RTRS covered 1,332,065 ha of certified land, as well as 49,918 producers (RTRS, 2022). Four group certifications in India encompass 99.5% (49,699) of these producers, but only 9.0% of the total certified land, as certified producers in this country are smallholders managing farm areas of 5 ha in average. On the other hand, 72.7% of the certified land is in Brazil, represented by 198 producers. Other countries with lower number of producers and certified area are Argentina, Paraguay and Uruguay.

As for CoC certification, there were 184 certified sites to receive, process and trade RTRS-soya in 13 countries in America, Europe and Asia (RTRS, 2022). Brazil held nearly half (44.6%) of these facilities. The main market uptake of these products was in Europe, with UK, the Netherlands and Germany as the main consumer countries.

4.1.6 Summary

Table 10 summarizes general information of the selected schemes and the findings related to the extent of their implementation.

Table	10:	Summary	of	selected	schemes'	general	information	and	extent	of
implen	nent	ation								

Scheme	Creation	Assurance system	Scopes/ standards relevant to this study	Highlights of implementation extent
1. Fairtrade International	1997	FLOCERT is the CB responsible for compliance assurance and is ISO/IEC 17065 accredited.	Standards for sustainable farming (small- scale producers, hired labour organizations, contract production). Specific standards for cocoa and coffee. Trader standard for supply chain traceability and best practices.	 3,058,525 ha in 70 countries 1,930 certified producer organizations (Latin American and the Caribbean: 50.3%; Africa and Middle East: 34.2%; Asia: 15.5%) 2,028,649 farmers and workers 4,345

Scheme	Creation	Assurance system	Scopes/ standards relevant to this study	Highlights of implementation extent
				businesses certified under the trader standard
2. FSC	1994	CBs accredited by ASI are responsible for compliance assurance.	Standards for sustainable FM (individual organizations, group certification, SLIMF). Standards for CoC.	 158,695,513 ha of certified forest in 81 countries (North America: 38.4%; Europe: 35.5%; Latin America: 11.4%; Africa: 6.3%; Asia-Pacific: 5.7%) 1,488 FM certificates 55,658 CoC certificates (Europe: 50.0%; Asia-Pacific: 40.4%)
3. Rainforest Alliance	1987	CBs ISO/IEC 17065- or ISO/IEC 17021-accredited are responsible for compliance assurance.	Sustainable agriculture standard, divided in farm requirements and supply chain requirements.	 >6 million ha of certified farmland and nearly 4 million farmers and workers on certified farms, across 70 countries Cocoa: >2.5 million ha, mainly in Côte d'Ivoire and Ghana Coffee: >1 million ha, mainly in Brazil and Colombia 6,642 licenses across 113 countries (47.9% for farming, 2.7% for both farming and supply chain, and 49.4% for supply chain) Farming licenses cover mainly Africa (42.7%) and Latin America (42.7%), while supply chain licenses cover mainly Europe (52.0%) and Asia and Pacific (21.0%)

Scheme	Creation	Assurance system	Scopes/ standards relevant to this study	Highlights of implementation extent
4. RSPO	2004	Certification bodies accredited by ASI are responsible for compliance assurance.	Standards for sustainable palm oil production (principles and criteria, independent smallholder). Supply chain standard.	 4,564,086 ha of certified land 124 certificates for producers under the Principles and Criteria Standard, with Indonesia (2,307,057 ha) and Malaysia (1,260,166 ha) as the main countries 96 certificates for independent smallholders >165,000 smallholders operating an area of nearly 417,000 ha in 14 countries 2,711 CoC certificates (Germany: 10.7%; US: 10.6%; UK: 9.7%; Italy, 6.2%; China: 5.3%)
5. RTRS	2006	CBs accredited by national accreditation bodies are responsible for compliance assurance.	Standards for responsible soya production (soybean production and biofuels). Standard for CoC.	 1.332.065 ha in 5 countries (Brazil, Argentina, India, Paraguay and Uruguay) 49,918 producers (India: 9.0% of land and 99.5% of producers; Brazil: 72.7% of land and 0.4% of producers) 184 certified sites to receive, process and trade RTRS-soya in 13 countries (Brazil: 44.6%)

Scheme: FSC= Forest Stewardship Council; RSPO= Roundtable on Sustainable Palm Oil; RTRS= Round Table on Responsible Soy Association.

4.1.7 Standards and other relevant documents

Table 11 summarizes standards and other relevant documents found relevant to the application of the assessment framework for each scheme. These were coded whenever found appropriate (e.g., standards and documents with long names and used for multiple indicators) to make it easier to report evidence found during the assessment. This way, standards can be mentioned multiple times, while maintaining their names short and yet identifiable. Although all documents were checked during the evaluation, they were only reported in the list of evidence (Annexes 4 to 8) when providing relevant, new, or complementary information for assessing indicators.

Scheme	Standards and relevant documents	Code	Level	Commodity specificity
1. Fairtrade International	Fairtrade Standard for Small-scale Producer Organizations -Version 2.5	FT_SPO_v2.5	IN	General Fairtrade documents
	Explanatory Document for the Fairtrade Standard for Small-scale Producer Organizations - Version 2.3	-	IN	
	Fairtrade Standard for Contract Production - Version 1.4	FT_CP_v1.4	IN	
	Fairtrade Standard for Hired Labour - Version 1.9	FT_HL_v1.9	IN	
	Fairtrade Trader Standard - Version 1.7	FT_TRA_v1.7	IN	_
	Explanatory Document for the Fairtrade Trader Standard	-	IN	
	Fairtrade International Requirements for Assurance Providers - Version 2.0	FT_AP_v2.0	IN	
	Fairtrade International Oversight Procedure - Version 2.1	FT_OP_v2.1	IN	_
	Fairtrade Organization Code - Version 1.0	FT_OC_v1.0	IN	
	Implementing Human Rights and Environmental Due Diligence (HREDD)	FT_HREDD	IN	
	Fairtrade Standard for Cocoa - Version 2.0	FT_COCOA_v2.0	IN	Сосоа

Table 11: Standards and other documents mapped as relevant data sources and used for assessing the selected schemes

Scheme	Standards and relevant documents	Code	Level	Commodity specificity
	Fairtrade Standard for Coffee - Version 2.4	FT_COFFEE_v2.4	IN	Coffee
	Public Compliance Criteria List - Small Producers' Organisations 7.39	FLO_SPO_CC_7.39	IN	General Flocert documents
	Public Compliance Criteria List - Contract Production 7.29	FLO_CP_CC_7.29	IN	-
	Public Compliance Criteria List - Hired Labour 7.26	FLO_HL_CC_7.26	IN	
	Public Compliance Criteria List - Trade Certification 8.32	FLO_TRA_CC_8.32	IN	_
	Audit Standard Operating Procedure - Version 21	FLO_AUD_v21	IN	-
	Allegation Standard Operating Procedure - Version 20	FLO_ALL_v20	IN	_
2. FSC	FSC Principles and Criteria for Forest Stewardship Standard - Version 5.3	FSC_P&C_v5.3	IN	Wood
	FSC Controlled Wood Standard for Forest Management Enterprises Standard - Version 2.0	FSC_CW_FME_v2.0	IN	-
	Requirements for Sourcing FSC Controlled Wood Standard - Version 3.0	FSC_CW_SOU_v3.0	IN	_
	Chain of Custody Certification Standard - Version 3.1	FSC_CoC_v3.1	IN	_
	Chain of Custody Certification of Multiple Sites Standard - Version 2.1	FSC_MS_v2.1	IN	-
	Forest Management Groups Standard - Version 2.0	FSC_GR_v2.0	IN	_
	SLIMF Eligibility Criteria Standard - Version 1.0	FSC_SLIMF_v1.0	IN	
	Stakeholder Consultation for Forest Evaluations Standard - Version 3.0	FSC_SC_v3.0	IN	-
	Forest Management Evaluations Standard - Version 4.0	FSC_FME_v4.0	IN	_

Scheme	Standards and relevant documents	Code	Level	Commodity specificity
	Chain of Custody Evaluations Standard - Version 4.2	FSC_CoCE_v4.2	IN	
	General Requirements for FSC Accredited Certification Bodies Standard - Version 4.0	FSC_ACB_v4.0	IN	
	Process requirements for the development and maintenance of National Forest Stewardship Standards - Version 1.2	FSC_NS_v1.2	IN	
	International Generic Indicators Standard - Version 2.0	FSC_GI_v2.0	IN	
	National Risk Assessment Framework Procedure - Version 1.0	FSC_NRAF_v1.0	IN	
	Policy to Address Conversion - Version 1.0	FSC_CON_v1.0	IN	
	FSC Glossary of Terms	FSC_GLOSSARY	IN	
	FSC and Corruption - Version 1.1	-	IN	
	Brazilian FSC standard for Small and Low Intensity Managed Forests (SLIMF) – Version 3.2	FSC_BR_SLIMF_v3.2	NA	
	FSC Standard for Forest Management on "Terra Firme" in the Brazilian Amazon - Version 1.1	FSC_BR_TF_v1.1	NA	
	FSC Chile - Propuesta de estándar para la certificación FSC de plantaciones forestales de operaciones a gran y pequeña escala	FSC_CH_PF	NA	
	FSC Chile - Estándar para la certificación FSC de bosques nativos de operaciones a gran y pequeña escala	FSC_CH_BN	NA	
3. Rainforest Alliance	Rainforest Alliance Sustainable Agriculture Standard - Farm Requirements - Version 1.2	RA_FR_v1.2	IN	General
	Rainforest Alliance Sustainable Agriculture	RA_SCR_v1.3	IN	

Scheme	Standards and relevant documents	Code	Level	Commodity specificity
	Standard - Supply Chain Requirements - Version 1.3			
	Annex S01: Glossary	-	IN	
	Annex Chapter 2: Traceability	-	IN	
	Annex S03 - Risk Assessment Tool	-	IN	
	Annex Chapter 6 - Environment	-	IN	
	2020 Certification and Auditing Rules - Version 1.3	RA_CAR_v1.2	IN	
	2020 Rules for Certification Bodies - Version 1.2	RA_RCB_v1.2	IN	
	Global Code of Conduct	-	IN	
	Rainforest Alliance Procedure - Grievance - Version 3.1	-	IN	
4 RSPO	RSPO Principles and Criteria for The Production of Sustainable Palm Oil 2018	RSPO_P&C_2018	IN	Palm oil
	RSPO Independent Smallholder (ISH) Standard 2019	RSPO_ISH_2019	IN	
	RSPO Supply Chain Certification Standard - Version 2	RSPO_SP_v2	IN	
	Remediation and Compensation Procedure (RaCP) related to Land Clearance Without Prior High Conservation Value (HCV) Assessment - Version 2.0	RSPO_ RaCP_v2.0	IN	
	RSPO Standard Operating Procedure for Standard Setting and Review 2020 - Version 3	RSPO_SSR_v3	IN	
	RSPO Certification Systems for Principles & Criteria and RSPO Independent Smallholder Standard - Version 3.0	RSPO_CS_P&C_v3.0	IN	
	RSPO Supply Chain Certification Systems - Version 2	RSPO_CS_SC_v2	IN	

Scheme	Standards and relevant documents	Code	Level	Commodity specificity	
	RSPO Management System Requirement for Group Certification of FFB Production 2022 - Version 3	RSPO_GR_FFB_v3	IN		
	RSPO Complaints and Appeals Procedures- Version 3	RSPO_CAP_v3	IN	_	
	Indonesia National Interpretation of the RSPO Principles and Criteria for the Production of Sustainable Palm Oil 2018	-	NA	_	
	Malaysia National Interpretation (MYNI) of the RSPO Principles and Criteria for the Production of Sustainable Palm Oil 2018	-	NA	-	
5. RTRS	RTRS Standard for Responsible Soy Production - Version 4.0	RTRS_RSP_v4.0	IN	Soya	
	RTRS Chain of Custody Standard - Version 2.3	RTRS_CoC_v2.3	IN	-	
	RTRS Accreditation and Certification Procedure for responsible soy production -Version 4.3	RTRS_ACP/RSP_v4.3	IN	_	
	RTRS Chain of Custody Accreditation and Certification Procedure for Certification Bodies -	RTRS_ACP/CoC_v3.3	IN	_	
	Version 3.3				
	RTRS Group and Multi-site Certification Standard - Version 3.2	RTRS_GRU_v3.2	IN	-	
	RTRS Group and Multi-site certification procedure for CBs - Version 3.2	RTRS_GRU/CB_v3.2	IN	-	
	RTRS Grievances Procedure - Version 1.0	RTRS_GP_v1.0	IN	-	
	Brazilian National Interpretation of RTRS Standard for Responsible Soy Production - Version 4.0	RTRS_BRA_v4.0	NA	-	
	Paraguayan National Interpretation of the RTRS Standard for Responsible	RTRS_PRY_v1.1	NA		

Scheme	Standards and relevant documents	Code	Level	Commodity specificity
	Soy Production - Version 1.1			

Scheme: FSC= Forest Stewardship Council; RSPO= Roundtable on Sustainable Palm Oil; RTRS= Round Table on Responsible Soy Association. Level: IN= international; NA= national.

4.2 Application of the assessment framework: overall results

This section provides the results of the assessment framework for all schemes together, starting from the overall results and then presenting the main results for each principle.

4.2.1 Overall results

Figure 4 provides a snapshot of the results obtained from the application of the assessment framework to the selected schemes. Additionally, Table 12 provides the summary of the results accompanied by the list of indicators. Overall, all schemes covered at last partially the indicators from Principle A. Moreover, four out of the five schemes did not cover three indicators from Principle B. The schemes covered at least partially most indicators from Principle C, with a couple of exceptions.



Schemes: Fairtrade= Fairtrade International; FSC= Forest Stewardship Council; Rainforest= Rainforest Alliance; RSPO= Roundtable on Sustainable Palm Oil; RTRS= Round Table on Responsible Soy Association. Outcome: FC= fully covered, PC= partially covered, NC= not covered, NA= not applicable.

Figure 4: Summary of results of the application of the assessment framework to the selected schemes.

Table 12: Summary of results of the application of the assessment framework to the selected schemes, by indicator

Principle and indicator	Fair.	FSC	Rain.	RSPO	RTRS
Principle A. Requirements that commodities and products are deforestation-free and produced in accordance with legislation					
A.1.1 The scheme presents a clear prohibition of deforestation and forest degradation	PC	PC	PC	PC	PC
A.1.2 The definitions of deforestation, forest degradation and forest match or encompass the definitions from the regulation	PC	PC	PC	PC	PC
A.1.3 The scheme presents a cut-off date that is equal or previous to December 31, 2020	PC	FC	FC	FC	FC
A.2.1 The scheme presents a clear requirement for production in accordance with the relevant legislation in the country of production	PC	FC	PC	PC	PC
A.2.2 The applicable legislation encompasses all the categories specified in the regulation	PC	PC	PC	PC	PC
A.2.3 The scheme requires that subcontractors operate in accordance with legislation	PC	PC	FC	PC	PC
Principle B. Requirements for information trace	eability and	d risk man	agement i	n the supp	oly chain
B.1.1 The scheme requires a mandatory traceability system	FC	FC	FC	FC	FC
B.1.2 The scheme requires that information on production and commercial transactions are recorded and kept for at least five years	PC	PC	PC	PC	PC
B.2.1 The scheme provides mechanisms to assure that standard-compliant material is segregated from other sources	PC	FC	FC	FC	FC
B.2.2 The scheme requires that material from other sources is deforestation-free	NC	PC	NC	NC	NC
B.2.3 The scheme requires that material from other sources is produced in accordance with the relevant legislation in the country of production	NC	FC	NC	NC	NC
Principle and indicator	Fair.	FSC	Rain.	RSPO	RTRS
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B.2.4 The scheme requires adequate measures for risk assessment and risk mitigation	NC	FC	NC	NC	NC

Principle C. Scheme structure, assurance system and transparency

C.1.1 The scheme presents consistency between international and national standards	NA	PC	NA	FC	FC
C.2.1 The scheme requires that verified parties have adequate policies, controls, and procedures for compliance assurance	PC	FC	PC	FC	PC
C.2.2 All documentation for compliance with the scheme must be kept for at least five years	FC	FC	PC	PC	PC
C.3.1 Non-compliance with deforestation-free and legality requirements prevents compliant status	PC	PC	PC	PC	PC
C.3.2 Conformity assessment is conducted by a legal, impartial, and qualified organization	FC	FC	FC	FC	FC
C.3.3 The scheme requires periodic checks or re-assessment of verified parties	PC	PC	PC	FC	PC
C.3.4 Conformity assessment has minimum requirements for information sources and sampling strategies for assuring effective auditing	PC	FC	FC	FC	FC
C.3.5 The scheme provides mechanisms to assure compliance by all members under a group verification	PC	FC	FC	FC	FC
C.4.1 The scheme makes publicly available the full requirements for verified parties and conformity assessment bodies	FC	FC	FC	FC	FC
C.4.2 The scheme makes publicly available the status of verified parties	FC	FC	FC	FC	FC
C.4.3 The scheme makes publicly available a summary of audit reports that contains methodology and main findings, including non-compliances	NC	PC	NC	PC	PC

Principle and indicator	Fair.	FSC	Rain.	RSPO	RTRS
C.4.4 The scheme presents policies, controls, and procedures to identify and manage risk of corruption	FC	FC	FC	PC	PC
	-		A		

Schemes: Fair.= Fairtrade International; FSC= Forest Stewardship Council; RA= Rain. Alliance; RSPO= Roundtable on Sustainable Palm Oil; RTRS= Round Table on Responsible Soy Association. Outcome: FC= fully covered, PC= partially covered, NC= not covered, NA= not applicable.

FSC is the scheme with the highest proportion of fully covered indicators (58.3%), followed by RTRS (45.8%), Rainforest Alliance (41.6%), RSPO (37.5%), and Fairtrade (25.0%). The proportion of partially covered indicators varied between 33.3 and 54.2% across schemes. Only FSC did not present any indicator classified as not covered, while this outcome represented 16.7% of the indicators for both Fairtrade and Rainforest Alliance, and 12.5% for both RSPO and RTRS (Figure 5).



Schemes: Fairtrade= Fairtrade International; FSC= Forest Stewardship Council; Rainforest= Rainforest Alliance; RSPO= Roundtable on Sustainable Palm Oil; RTRS= Round Table on Responsible Soy Association. Outcome: FC= fully covered, PC= partially covered, NC= not covered, NA= not applicable.

Figure 5: Overall percentage of indicator coverage by scheme.

4.2.2 Principle A

All schemes partially covered two out of three indicators from criterion A.1, as a result of a partial prohibition of deforestation (Figures 4 and 6, Table 12). In all cases, there were exceptions in which deforestation can occur in compliance with the scheme (e.g., when it affects small areas or when it is done to prevent more serious issues). Another contributing factor to this partial coverage was the mismatch between the definition of deforestation adopted by the schemes and the one adopted by the EUDR. The main gap found was that schemes attached the term deforestation to natural forests, or only addressed conversion

of HCVs and High Carbon Stock (HCS) forests, leaving behind forests that do not fall within this scope. In contrast, the EUDR definition for deforestation does not make any distinctions between the forest types to which the prohibitions apply. Most schemes presented a clear cut-off date that is previous to the one established by the EUDR, fully covering the remaining indicator. Fairtrade makes the exception, as coffee under certain standards was not covered by a no-deforestation requirement, and therefore a cut-off date did not apply.



Schemes: Fairtrade= Fairtrade International; FSC= Forest Stewardship Council; Rainforest= Rainforest Alliance; RSPO= Roundtable on Sustainable Palm Oil; RTRS= Round Table on Responsible Soy Association. Outcome: FC= fully covered, PC= partially covered, NC= not covered, NA= not applicable.

Figure 6: Results from the assessment framework for Principle A, by criteria and scheme.

For criterion A.2, most indicators were partially covered, meaning that gaps for a comprehensive assurance of compliance with legislation were identified. Only FSC presented requirements for compliance with legislation for all verified parties (i.e., at the production and at the supply chain levels). The other schemes presented gaps at the supply chain level (e.g., processors, manufacturers and traders handling certified material). Moreover, some schemes did not require a check of subcontractors against compliance with legislation. All schemes partially covered the categories defined by the EUDR as relevant legislation, with different magnitudes of gaps. Item (h) from the EUDR (tax, anti-corruption, trade and customs regulations) was the gap most commonly reported, but gaps related to items (b) (environmental protection) and (f) (human rights protected under international law) were also identified for some schemes. Standards at the production level addressed relevant legislation more extensively when compared to standards at the supply chain level.

4.2.3 Principle B

For criteria B.1, one indicator was fully covered, and one indicator was partially covered by all schemes (Figures 4 and 7, Table 12). All schemes required a mandatory traceability system for handling certified products, while also detailing the traceability systems allowed and their rules. On the other hand, not all information required by the EUDR regarding the traceability of commodities and products were covered by the schemes. The main gap identified was the deolocation of the plots of land where the relevant commodities were produced. as well as the date or time range of production. Rainforest Alliance required the registration of the geolocation data of the farms, and that products that are sold as certified can be traced back to the certified farms where these were produced. However, these requirements did not satisfy the plot of land level and did not mention the date or time range of production. RSPO provided one traceability system that allows to trace back palm oil to a single mill. However, it did not provide a link to the plots of land as defined by the EUDR, but rather the entire supply base of that mill. All the other schemes did not mention geolocation requirements.



Schemes: Fairtrade= Fairtrade International; FSC= Forest Stewardship Council; Rainforest= Rainforest Alliance; RSPO= Roundtable on Sustainable Palm Oil; RTRS= Round Table on Responsible Soy Association. Outcome: FC= fully covered, PC= partially covered, NC= not covered, NA= not applicable.

Figure 7: Results from the assessment framework for Principle B, by criteria and scheme.

For criteria B.2, several gaps were identified in relation to the risk management of the supply chain. For traceability systems not allowing the mixing of certified products with products from other sources, all schemes presented requirements that certified material must be kept separated throughout the supply chain, with adequate procedures and controls for meeting such requirements. Only Fairtrade fell short in relation to the documented procedures and internal controls to manage the risk of mixing certified material with material from other sources. On the other hand, all schemes allowed, at some level, the mixing of certified and not certified material under certain traceability systems. In these cases, the products sold as certified are not necessarily those produced in land certified by the scheme. Instead, the amount of product sold as certified cannot exceed the amount of product initially purchased as certified (also considering a conversion factor to a processing stage if applicable), and conventional material can be sold as certified based on this balance. However, the conventional material was not produced according to the social and environmental requirements set by these schemes. Considering the relevant commodities for this study, Fairtrade and Rainforest Alliance allowed the adoption of this type of system only for cocoa (i.e., coffee cannot be managed under such system). RSPO and RTRS also allowed this system for their commodities. In the case of these four schemes, there is no control over the social and environmental performance of the non-certified material entering the scheme's supply chain. Therefore, they can be associated with deforestation and non-compliance with legislation.

FSC also allows for mixing of certified and non-certified material, generating different claims for selling FSC products. However, the scheme has standards, namely Controlled Wood (CW) standards, to assure that non-certified material does not come from unacceptable sources. Unacceptable sources include categories that are relevant for this study, such as illegally harvested wood, wood harvested in violation of traditional and human rights, and wood from forests being converted to plantations or non-forest use. The scheme sets requirements for enterprises supplying CW, as well for organizations sourcing CW for their operations, which must conduct due diligence to assure that wood does not come from these unacceptable sources. The main gap identified was that conversion of forests into plantations or non-forest uses is allowed in certain circumstances, with similar exceptions as those from the FSC Principles & Criteria (P&C) standard, thus not fully prohibiting deforestation. Nevertheless, compliance with legislation was covered, and the risk assessment and risk mitigation measures set for organizations sourcing controlled wood followed a similar approach from the EUDR.

4.2.4 Principle C

Criterion C.1 was represented by only one indicator, which did not apply to Fairtrade and Rainforest Alliance, as no national standards/interpretations were developed for these schemes (Figures 4 and 8, Table 12). In the case of FSC, there were clear procedures to grantee the consistency between the international P&C Standard and the national Forest Stewardship Standards (FSS). However, small inconsistencies related to compliance with national legislation were found when investigating standards developed for Brazil and Chile. In the case of RSPO and RTRS, evidence indicated that the requirements relevant for this framework did not suffer inconsistent modifications in the NIs.



Schemes: Fairtrade= Fairtrade International; FSC= Forest Stewardship Council; Rainforest= Rainforest Alliance; RSPO= Roundtable on Sustainable Palm Oil; RTRS= Round Table on Responsible Soy Association. Legend: FC= fully covered, PC= partially covered, NC= not covered, NA= not applicable.

Figure 8: Results from the assessment framework for Principle C, by criteria and scheme.

For criterion C.2, dealing with the requirements for compliance assurance by verified parties, only FSC fully covered both indicators. Fairtrade and RTRS covered one indicator and partially covered the other. Rainforest Alliance and RSPO partially covered both indicators (Figures 4 and 8, Table 12). Some schemes fell short in the requirements for CHs to have adequate policies, controls, and procedures for compliance assurance when considering both the production and supply chain levels. In the case of Fairtrade, for example, the requirements for an internal control system did not apply to all organizations and varied across the different scopes. For Rainforest Alliance and RTRS, gaps related to requirements for the management system were identified (e.g., documented procedures for applicable requirements. responsibilities. competence). Some schemes also fell short in terms of record-keeping of evidence for compliance, either because requirements did not apply to both production and supply chain levels, or because records were kept for less than five years.

For criterion C.3, some gaps were identified related to conformity assessment (Figures 4 and 8, Table 12). First, conducting deforestation or not complying with legislation was not found to lead to certificate suspension/withdraw. One of the reasons are the gaps identified in Principle A, pointing out that schemes do not comprehensively cover these topics (see 4.2.2). Moreover, no evidence was found fulfillina these requirements guarantees that not certificate suspension/withdraw. The failure to meet schemes' requirements lead to minor and major NCs, depending on their significance (e.g., major NCs result in fundamental failure to achieve the objective of a requirement). Even when a

failure to meet such requirements is classified as major NCs, these can be addressed by corrective actions within a preestablished timeframe. It is unclear if corrective actions can be established when violating rules for nodeforestation/conversion and compliance with law, and what would they be, which would require further investigation. Up to the evidence collected, certificate suspension/withdraw was found to occur unless corrective actions are not adequately addressed or if major NCs are recurrent. Therefore, products covered by these schemes can potentially be associated with deforestation and non-compliance with legislation and still be sold as certified.

All schemes fully covered the indicator for the minimum requirements for conformity assessment bodies and set additional requirements for impartiality and competence. Moreover, all schemes required periodic checks on CHs (e.g., surveillance audits), which were found to be conducted annually. However, the schemes do not guarantee that checks occur within 12 months, and 15 months was the maximum interval more commonly reported. Most schemes also set minimum requirements for information sources and sampling strategies for assuring effective auditing. Only Fairtrade was found not to mention stakeholder consultation as one of the information sources for audits. Finally, most schemes provided mechanisms to assure compliance by all members under a group certification. In the case of Fairtrade, some gaps were identified in relation to group management (e.g., internal control system for group certification did not apply to all organizations).

For criterion C.4, the main gap identified was that Fairtrade and Rainforest Alliance did not provide a publicly summary of audit reports. The other schemes make a summary publicly available on their website, or on the website of the conformity assessment body, containing assessment findings (including NCs and corrective actions). However, these reports only applied the production level (e.g., farming and forest management), not covering the supply chain level (e.g., CoC certification). Other than that, all schemes made publicly available all the standards and other relevant documents, as well as a list of CHs that included certificate status. For RSPO and RTRS, it was not clear how often the list of CHs was updated, while it was periodically updated for Fairtrade, FSC and Rainforest Alliance. Most schemes had policies to address corruption, as well as policies, procedures, and channels to handle grievances, complaints, and appeals.

4.3 Application of the assessment framework: results for each scheme

This section presents the results for each scheme separately, providing more details on their individual performance. The full assessment of each scheme is provided in Annexes 4 to 8, containing the full evidence and justification supporting the results. Some schemes adopt specific names for conformity assessment bodies, such as CBs or assurance providers (APs). Both CBs and APs were considered as synonyms to conformity assessment bodies for the aims of this study. On this same note, organization, management, and CH were different terms adopted by the schemes, which were considered under the umbrella term verified parties adopted by this framework.

4.3.1 Fairtrade International

Fairtrade presented three scopes for certification of agricultural production: a) Small-scale Producer Organization (SPO), which are organizations where at least two thirds of its members are farmers who are not structurally dependent on permanent hired labour and who manage their production activity mainly with family workforce; b) Hired Labour (HL), which applies to organizations which employ hired labour to supply Fairtrade certified products; and c) Contracted Production (CP), where intermediary organizations (e.g., traders, NGOs) acting as promoting bodies either contracts and/or supports small-scale producers that are not yet organized to fit into the scope of the SPO standard. Requirements are classified as core (must be complied with) and development (for continuous improvement), and the year of the certification cycle when their compliance must be achieved can vary. The scheme also presented the trader standard for organizations handling Fairtrade products along the supply chain. The main findings are presented next by each Principle. Refer to Annex 4 for the specific requirements mentioned in the text.

Principle A

The SPO standard presented a clear requirement that members do not cause deforestation, which was a core requirement to be complied with from the start of the certification cycle. On the other hand, the standard for CP did not present a clear requirement for no-deforestation, but rather required the avoidance of negative impacts on protected areas and in HCV areas. Moreover, it required that the conversion of areas for agricultural production complies with national legislation. The definition of negative impact (i.e., partial or complete destruction of the protected area or loss of the conservation value) would likely include deforestation, but the requirement did not apply to all forests in terms of the EUDR. The HL standard followed the same approach. The specific standard for cocoa also presented a clear no-deforestation requirement, while the specific standard for coffee did not. Therefore, cocoa was covered by a no-deforestation requirement regardless of the certification scope, while for coffee a nodeforestation requirement only applied to the SPO scope. These aspects are relevant for operators using Fairtrade as source of complementary information on the compliance with the EUDR, as the stringency levels varied across scopes.

Deforestation was defined as the conversion of forest to other land use, which encompassed the EUDR definition. On the other hand, forest was not defined in the standards. The requirements for no-deforestation in the SPO standard applied from July 1st, 2019. In the case of cocoa, producers were required not to cause deforestation after December 31st, 2018. Therefore, for the cases where a no-deforestation requirement applied, the cut-off dates were previous to the one established in the EUDR.

The SPO standard required that there are no indications that members violate national legislation on the topics covered by the standard, which was a core requirement to be complied with from the start of the certification cycle. Thus, the requirements were limited to the topics covered by the standard, which was not completely aligned with the definition of relevant legislation of the EUDR. On

the other hand, CP, HL and trader standards did not present specific requirements for compliance with legislation. What they presented was a statement in the beginning of the documents that organizations under the standards shall abide national legislation. However, this was not translated into specific requirements in the body of the standards. Moreover, only for HL this was addressed in the document containing the compliance criteria, which is the translation of requirements into verifiable control points as defined by FLOCERT.

The different standards addressed the categories of relevant legislation listed in the EUDR to different extents. By considering the statement in the beginning of the standards that national legislation addressing the topics covered by the standard must be abided, any requirements linked to the relevant legislation were taken into consideration for this assessment. The SPO standard presented a requirement for land use rights, as well as a series of requirements related to environmental development and labour conditions. The Universal Declaration of Human Rights was mentioned in the requirements for nondiscrimination. The standard addressed items (a), (b), (d), (e), and (f). No direct mention to items (g) and (h) were identified.

The CP standard presented a series of requirements for environmental development and labour conditions. The Universal Declaration of Human Rights was mentioned in the requirements for non-discrimination. Thus, the standard addressed items (b), (e), (f), and items (a), (d), (g) and (h) were not identified. The HL standard presented a requirement for legal land tenure, including the free, prior and informed consent (FPIC) of local communities, as well as a series of requirements related to environmental development and labour conditions. Human rights were also mentioned (freedom from discrimination and freedom of association). Thus, items (a), (b), (d), (e), (f) and (g) were addressed, with no mention of item (h).

The trader standard only set requirements for compliance with labour and environmental laws. No direct mention to items (a), (d), (f), (g) and (h) were identified. Although some of them might not be applicable to traders (e.g., land use rights, the principle of FPIC), some are clearly relevant (e.g., tax, anti-corruption, trade and customs regulations).

Overall, the scheme was found to have different levels of stringency in the requirements for compliance with legislation across standards (e.g., not all standards had a clear requirement translated into compliance criteria) and had different coverage of relevant legislation as defined by the EUDR. All these topics were just partially addressed many times (e.g., mention of individual human rights throughout the standards, but not a direct mention of respect to human rights according to international law), with no direct mention, while also covering an item just to a certain extent. Thus, operators must also consider the scope of certification in the context of compliance with legislation and be aware of the limitations of the scheme in this matter.

The SPO, CP and HL standards included subcontracted premises in the scope of announced and unannounced audits. However, only the requirements for labours conditions explicitly mention that they apply to workers employed directly or indirectly (subcontracted). No evidence was found that subcontracted parties must also comply with other relevant aspects of the standard (e.g., requiring that subcontractors comply with the same environmental requirements, and therefore abide legislation on that topic). On the other hand, the trader standard required that any additional entities comply with the standard, accept audits, and do regular reporting. The standard defined subcontractors as an individual or company that provides processing and/or manufacturing services on behalf of an operator but does not take legal ownership of the product.

Principle B

The scheme required a mandatory traceability system. The SPO, CP and HL standards all required the registration of purchases and sales of Fairtrade products, documenting product information up to the first buyer. From this point, the trader standard required documented traceability, and all traders must register information of Fairtrade products in purchases and sales documents, so the CB can trace back information on the traders, dates, quantities etc.

All standards also required record-keeping, with relevant information on the products. However, it was not clear for how long these records must be kept. The trader standard required the registration of the FLO-ID in the sales documentation. FLO-ID is a unique customer identification number which is assigned to all Fairtrade operators by the CB, which can be used to identify the country of origin of the certificate. The scheme did not provide mechanisms to allow tracing back a Fairtrade product to the plot of land where they were produced, nor the time range of production.

Fairtrade applies rules of physical segregation for most products. For this system, all standards provided requirements for the physical segregation of Fairtrade products, which must be kept separated from non-Fairtrade products at all stages. However, the standard was not clear on the need of a documented procedures for assuring that products are segregated and how to manage the risk of mixing with non-Fairtrade products. The explanatory documents only address the need to document the product flow, i.e., description of how products move to the buyers (e.g., if members bring their products to a collection point or if the organization pick products up at members' farms).

Furthermore, there was an important aspect to be considered for newly certified organizations. The standards allowed for organizations to sell products in stock as Fairtrade in the first 12 months after certification. Thus, these products carry the Fairtrade name, but are not produced under Fairtrade requirements.

Cocoa, cane sugar, juice or tea can be managed under mass balance (MB) rules. In these cases, physical separation is only necessary up to the processing stage, from which Fairtrade and non-Fairtrade products can be mixed. MB was mentioned in the SPO, HL and trader standards, but not the CP standard.

The quantity of outputs sold as Fairtrade products must not exceed the quantity of inputs sourced as Fairtrade (e.g., if 50 MT of Fairtrade and 100 MT of non-Fairtrade products are mixed when entering a factory under the MB system, only 50 MT can be sold as Fairtrade products, or the equivalent amount after

processing by using the specified conversion factors). This means that, although a balance is ensured, not the totality of Fairtrade cocoa products under the MB system are necessarily produced under the Fairtrade standards. No standards, documents, requirements, procedures, or systems to control for the social and environmental features of non-Fairtrade products entering the supply chain were identified. This means that non-Fairtrade products used by traders and companies under the MB can in principle be associated with deforestation and non-compliance with legislation.

Principle C

The standards were quite variable in the requirements for internal compliance assurance. The SPO standard required a periodic risk assessment of noncompliances, which must be updated every three years. It also required a procedure for monitoring and assessing performance, which could include a direct evaluation of members, e.g., through an Internal Management System (IMS), or members can assess themselves and provide feedback (thus different degrees of stringency can be adopted). Only 2nd and 3rd grade organizations and 1st grade organizations with more than 100 members were required to implement an IMS, which would include documented procedures, plans and policies, the appointment of a responsible, internal regulation and inspectors, training, reports, internal sanctions etc. The necessary elements are defined by the CB.

The CP standard required an Internal Control System (ICS), which presents the same features of the IMS described above. However, no further requirements were identified. The HL standard only required the appointment of a Fairtrade Officer, which is responsible to ensure implementation and monitoring. However, no further requirements were identified. A similar approach is adopted by the trader standard.

The commodity-specific standards strengthened the risk management practices by introducing due diligence. The cocoa standard required a human rights and environmental risk assessment at least every three years, which is based on a due diligence guide and supporting maps. The due diligence has a wider scope than assessing non-compliance with the standards. The coffee standard also links the same document in the guidance of some requirements related to labour conditions. Overall, some gaps were identified for a strong internal system of compliance assurance system, especially when considering the variability across standards.

APs must present a list of compliance criteria, classifying them as major, core or development. NC with a major compliance criterion as well as multiple core requirements may lead to sanctions (denial, suspension, withdraw and financial penalty). The compliance criteria identified for no-deforestation and compliance with law were classified as core, for example. NCs can be addressed up to three months in case of traders, and nine months in case of producers, which are once again found compliant after corrective actions. Sanctions were found to be applied by APs if NCs are not corrected effectively. Thus, there is a risk that CHs are associated with deforestation and non-compliance with legislation, as certificate denial, suspension and withdraw are not guaranteed by the

scheme. These aspects must be investigated in detail by operators when using Fairtrade as source of complementary information for compliance with the EUDR.

In the standard for APs, the scheme required that conformity assessment is conducted by a legal, impartial, and qualified organization. The scheme also set qualification and competence criteria for the auditors (e.g., work experience, audit experience, Fairtrade system training, language, and communication skills). The same standard set the rules for audits frequency. A full initial on-site audit must be conducted, as well as a full on-site audit for re-certification. On-site or desk-based surveillance, follow-up and unannounced audits are conducted during the certification cycle. However, the frequency is defined according to a risk-based approach, which is based on the probability that Fairtrade standards are not being met. Thus, the frequency varies across CHs. Low-risk clients, for example, receive a minimum of one audit per three-year certification cycle. Moreover, surveillance audits may be waived in case of low-risk clients. Thus, there is a possibility that these clients receive third-party checks at intervals longer than 12 months.

The FLOCERT audit standard operating procedure set the rules for audits. The document defined the composition of audit teams, the number and type of interviews, the number of samples taken on affiliated organizations, and the documents that need to be checked. Evidence for conformity assessment is gathered from three main sources: interviews, field visits and documentation revision. Guidelines were available for how to conduct interviews and what is the sample size for each certification scope. Specific elements to be checked in documentation revision and field inspection were provided in the compliance criteria documents. The standards did not cover obtaining information from external stakeholders (e.g., members of the community affected by the activities and legal authorities), which can be important sources of information on non-compliance with the standards.

SPO and CP focus on groups of small-scale producers, where there is an organization or a promoting body responsible for managing all aspects of the Fairtrade certification, including compliance by group members. However, the requirements for an effective group management were variable. For CP, an ICS must be in place, with documented procedures, plans and policies, one person responsible for the system etc. In the case of the SPO standard, an IMS is only required for 2nd and 3rd grade organizations, or 1st grade organizations with more than 100 members. Standards also did not set minimum requirements for organizations and promoting bodies, such as economic and human resources, competence, policies, procedures etc. FLOCERT audit procedure presented the sampling strategies adopted in audits for collecting evidence on compliance of group members. This applied to the interview of members and workers, for the field inspections of farms, and for trade documentation revision.

All standards and other relevant documents related to the scheme were publicly available online, as well as a list of CHs, including the indication if the certificate is valid or suspended (via Fairtrade Finder, which is still under development, or via Fairtrade Customer Search). No evidence was found on the availability of public summaries of audit reports. Finally, Fairtrade had an Organization Code in place, which required that all Fairtrade Members (e.g., Fairtrade International, APs) adopt clear policies and control plans to prevent, detect and act on any evidence presented of fraudulent or corrupt practices.

4.3.2 Forest Stewardship Council (FSC)

FSC presented standards for FM and CoC. The main standard for FM is the P&C standard, which must be followed by all possible scopes of organizations seeking certification (corporate and individual organizations, group certification, and SLIMF). The CoC standard applies to organizations handling and making claims on FSC-certified products (e.g., manufacturers, retailers, brands), which also include an approach for group certification. FSC also presented standards for controlling the origin of non-FSC-certified wood entering the supply chain (CW standards). The main findings are presented next by each Principle. Refer to Annex 5 for the specific requirements mentioned in the text.

Principle A

The P&C standard required that organizations do not convert natural forest or HCV areas to plantations or to non-forest land use, nor transform plantations on sites directly converted from natural forest to non-forest land use. To some extent, this requirement would cover both deforestation (i.e., conversion into non-forest land use) and forest degradation (i.e., convention into plantations) in terms of the EUDR. However, some gaps were identified.

First of all, this requirement only applies to natural forests (i.e., a forest area with many of the principal characteristics and key elements of native ecosystems) and HCVs, i.e., six categories related to species diversity, landscape-level ecosystems and mosaics, ecosystems and habitats, critical ecosystem services, community needs, and cultural values, which are detailed in Annex 5 of this study.

Furthermore, conversion is allowed when it: a) affects a very limited portion of the management unit (MU) (i.e., not exceeding 5%), b) will produce clear, substantial, additional, secure long-term conservation and social benefits in the MU, and c) does not damage or threaten HCVs, nor any sites or resources necessary to maintain or enhance HCVs. Therefore, there are cases where deforestation and forest degradation are allowed in compliance with the scheme, which must be taken into consideration by operators using FSC as source of complementary information on compliance with the EUDR. Apart from these exceptions, MUs do not qualify for certification if conversion occurred after December 31st, 2020.

In the P&C standard, Principle 1 required compliance with laws. Criteria under this principle included tenure and use rights, rights to operate, rights to harvest, trade, and corruption, addressing items (a), (c) and (h), to different extents. To complement this requirement, standard development groups developing national Forest Stewardship Standards (FSS) were required to complete a list of all applicable laws, obligatory codes of practice and legal and customary rights at the national and, where applicable, sub-national level. The minimum list of applicable laws addressed items form (a) to (e), as well as (g) and (h). Item (f) was not directly mentioned, but relevant aspects were addressed across the standard. However, by checking the four FSS developed for Brazil and Chile, only the Brazilian Standard for SLIMF mapped the applicable laws as expected. Thus, this broad coverage of legislation topics was not found to be applied to all FSS, which might fall short for some countries. Operators should then take into consideration the content of the applicable FSS.

In the CoC standard, organizations were required to comply with all applicable timber legality legislation. For organizations exporting FSC products to the EU, this would mean compliance with the EUTR. Thus, by extension, applicable legislation under the EUTR addressed, to different degrees, items (a), (c), (d) and (h). Items (b), (f) and (g) were not covered, although the latter might not be applicable for organizations under the CoC standard. It is important to highlight that the EUTR is directly mentioned by the standard. Therefore, the mismatch only reflected the differences between the EUTR and the EUDR on what is considered applicable/relevant legislation. In case the standard is updated to include the EUDR instead, this scenario would change.

The requirements under the P&C standard extended to all the organization's management activities related to the MU, including if they are subcontracted. This was further reinforced in the standard for FM evaluation. The CoC standard presented several requirements for organizations outsourcing activities to non-FSC-CoC-certified subcontractors. However, requirements were mainly related to the management of the outsourced material (e.g., use of trademarks, accepting audits, not mixing material, record keeping etc), and the standard did not mention the need of compliance with laws by the subcontractor. Additionally, the standard for CoC evaluation focused on monitoring the CoC system.

Principle B

A CoC certification is required for all organizations sourcing, processing, labelling, and selling forest-based products as FSC certified. According to this standard, all purchase and sales documents must be kept for five years. Records included, among others, the organization name and contact details, information to identify the customer, date, product name and description, and quantity. Furthermore, for compliance with timber legality legislation, the organization must collect and provide information on species (common and scientific name) and country of harvest (or more specific location details if required by legislation) when requested. The geolocation of the plot of land (e.g., MU from which the wood originated from), and time range of production were not covered.

The CoC standard required that all FSC products are kept segregated when there is risk of mixing with non-eligible inputs. This could be done by physical separation, temporal separation, or identification of materials. The segregation of FSC products was also required when handled by subcontractors. Furthermore, the CoC standard required the implementation and maintenance of a CoC management system to ensure continuous conformity to all applicable certification requirements, including: appointing a management representative, implementing and maintaining up-to-date documented procedures, defining personnel responsible for the implementation of each procedure, and training staff on the organization's procedures.

FSC allowed the mixing of certified and non-certified materials. Different claims were allowed for a certified product, depending on the inputs and the CoC system adopted (transfer, percentage, or credit). The claims allowed by the schemes were: FSC 100%, FSC Mix x%, FSC Mix Credit, FSC Recycled x%, FSC Recycled Credit, and FSC Controlled Wood. Rules related to recycled materials were not considered for the purpose of this study.

For the transfer system, the output must carry the lower claim of the inputs. For the percentage system, the organization must calculate the claim of the product based on the quantity of claim-contributing inputs and the total quantity of forest-based inputs. The credit system allows a proportion of outputs to be sold with a credit claim corresponding to the quantity of claim-contributing inputs. When there is processing, a conversion factor applies. Therefore, the guarantee that the totality of a product comes from FSC-certified forests, and therefore complies with the social and environmental requirements set in the P&C standard, is only achieved by FSC 100%.

In contrast to the other schemes considered in this study, FSC was the only scheme providing a system for controlling the wood from other sources that is mixed with FSC-certified material under the percentage and credit systems. The CW standards aimed at avoiding the use of material from unacceptable sources, which included: 1) Illegally harvested wood; 2) Wood harvested in violation of traditional and human rights; 3) Wood from forests in which high conservation values are threatened by management activities; 4) Wood from forests being converted to plantations or non-forest use; and 5) Wood from forests in which genetically modified trees are planted.

The scheme set requirements for enterprises supplying CW, as well for organizations sourcing CW for their operations, which must implement a DDS to assure that wood does not come from these unacceptable sources. The DDS included obtaining information on the material, risk assessment, and risk mitigation (whenever risk assessment does not indicate low risk for an indicator). FSC conducts National Risk Assessments. When these are not available in a country, organizations were required to conduct their own. Risk assessment indicators included deforestation activity, enforcement of logging related laws, legality of harvests and wood purchases, reporting of illegal harvesting, perception of corruption, among others.

When an indicator is not classified as low risk, the organization was required to apply control measures to mitigate the risks. A series of control measures was listed in the CW standard (e.g., stakeholder consultation, document verification, supply chain audits, field verification at the supply unit level). When available, FSC risk assessments classify the risk for each indicator and specify mandatory and recommended risk mitigation measures for indicators not classified as low risk.

The DDS was required to be reviewed at least annually There were also requirements for competence, documentation, and records of the DDS.

Organizations were required conduct internal audits to ensure that the DDS is being implemented correctly, and the system is also audited by the CB. Documents, sites, premises of suppliers and sub-suppliers, and supply units should be accessible for evidence of conformity.

The main gap identified was that conversion of forests into plantations or nonforest uses was allowed in certain circumstances, with similar exceptions as those established the P&C standard (see Principle A), thus not fully prohibiting deforestation. Nevertheless, compliance with relevant legislation was covered, and the risk assessment and risk mitigation measures set for organizations sourcing CW followed a similar approach from the EUDR.

Principle C

FSC presented a system to assure consistency between international and national standards. The scheme is covered by a standard setting rules for developing national FSS, which includes the proposition of generic indicators. However, some inconsistencies were identified when comparing different FSS (e.g., extent of the categories of legislation covered in FSS developed for Brazil and Chile, as presented in Principle A).

The scheme required organizations to have a management system in place to ensure compliance with the applicable FSC requirements. This was stablished in the standard for FM evaluations, where the CB must assess the organization's management system and its capacity to implement it (e.g., technical and human resources available, documentation, procedures and records). Moreover, the CoC required the implementation and maintenance of a CoC management system to ensure continuous conformity to all applicable certification requirements (as presented in Principle B).

The CB was responsible for classifying NCs with the standards as minor or major. Minor NCs must be corrected within the maximum period of one year, while major NCs must be corrected within three months. Certificate suspension was found to occur when a major NC is not addressed within the timeframe, or if five or more major NCs are identified during a surveillance audit. This could potentially allow FSC-certified products in the market that are not compliant with rules for forest conversion and compliance with laws, which must be considered by operators. Further investigation is required to understand how the scheme handles CHs violating these requirements.

The scheme required that conformity assessment is conducted by a legal, impartial, and qualified organization. The scheme also established minimum requirements for the qualification of auditors for different certification scopes (i.e., FM and CoC). Audits were required to be conducted every calendar year. However, depending on the time of the year they occur, the interval between them can be longer than 12 months. For CoC, this interval could not be longer than 15 months. Multiple sources of information were required for audits, including document analysis, interview with workers, stakeholder consultation and field observation. For certification of multiple MUs, a sampling strategy was provided.

The standard for group certification provided minimum requirements of group functioning, such as legal registration, definition of responsibilities and internal monitoring. Standards for the evaluation of FM an CoC also provided clear sampling procedures to conduct audits on group certification.

A complete directory with relevant documents for the FSC system was publicly available online. FSC also provided a dashboard with information on certificates, including their status as valid or not. CBs were required to provide public summaries of audit reports, for CoC certification these reported included only the evaluation of CW rather than all applicable requirements. Furthermore, a new platform was under development for the consultation of certificate information, including public summaries of audit reports. Anti-corruption measures were also present for the FSC system.

4.3.3 Rainforest Alliance

The 2020 Rainforest Alliance Certification Program is grounded on the Sustainable Agriculture Standard, which is divided in farm requirements and supply chain requirements. For farms, applicable requirements vary according to the certification scope, as different sets of requirements apply to group management, to small farms under group certification, to large farms under group certification, or to individual certification. Farm requirements are classified as core (always have to be complied with), mandatory improvements (Level 1 after three years of certification; Level 2 after six years of certification), and self-selected (not mandatory). The main findings are presented next by each Principle. Refer to Annex 6 for the specific requirements mentioned in the text.

Principle A

The scheme presented a requirement prohibiting conversion of natural forests and other natural ecosystems into agricultural production or other land uses from January 1st, 2014. However, some exceptions were identified. Farms can still get certified if minor conversion has already occurred after this date, i.e., conversion did not comprise more than 1% of the land of the farm or more than 10 ha (whichever is smaller). Large farms and individual farms are required to develop a restoration/compensation plan to remediate the conversion. Conversion is also allowed in certain circumstances to maintain or expand infrastructure essential for farm or processing operations. In this case, the need for the conversion must be properly justified and must not surpass 1% of the total certified area. Furthermore, this requirement applied only to natural forests, while the EUDR makes no distinction between forest types. Therefore, operators using Rainforest Alliance as source of complementary information on compliance with the EUDR must consider these gaps.

The scheme required that CHs comply with applicable laws, although the requirements at the supply chain level were more limited. At the farm level, there was a requirement that CHs comply with applicable laws within the scope of the standard, prevailing the stricter rule. The standard presented requirements addressing, to different degrees, items (a), (b), (d), (e) and (g).

Item (f) was not directly mentioned, although relevant topics are across the standard, while item (h) was not covered. At the supply chain level, CHs were required to comply with applicable laws in relation to items (b), (e) and (f). Items (a), (d), (g) and (h) were not directly addressed. While some topics may not be relevant to this scope (e.g., principle of FPIC), others clearly apply (e.g., tax regulations).

Both farm and supply chain standards required that subcontractors comply with the applicable requirements. The standard for certification and auditing rules reinforced that management, social and environmental requirements must cover all operations and areas of all entities, including subcontractors.

Principle B

The management of group or individual certification must keep purchase and sales documents linked to physical deliveries from the certified, multi-certified (i.e., certified my more than one scheme), and non-certified products. The purchase and sales documents must include data, product type, (percentage of) certified volume, group member and, if relevant, traceability type.

Three types of traceability systems were available: a) Identity preserved (IP), where there is no mixing of certified product with non-certified product, or with certified product from different sources, and the products can be traced back to the farm holding the certificate; b) Segregation (SG), where the certified product is kept separate from and never mixed with the non-certified product; and c) MB, where the certified and non-certified product can be mixed, but where no more volume of product is sold as certified than what was initially purchased as certified.

For the IP and SG systems, the scheme required the visual separation of certified products from non-certified ones at all stages, including transport, storage, and processing. Thus, these are the only systems where the final product can be considered to have been produced under the scheme's social and environmental requirements. The scheme also required a management plan, procedures, inspection system and self-assessment in relation to all applicable requirements.

The MB system can be applied to cocoa products, and therefore is relevant for this assessment. No evidence was found regarding the control of social and environmental performance of the non-certified material entering the MB system. The only control found was for the geographical origin of cocoa products. In this case, origin matching was required, and the conventional product must come from the same origin as the certified product that is being mixed with. A regional approach may be used for some countries (e.g., West Africa, South America).

However, this was the only requirement regarding the origin of cocoa products. Therefore, cocoa traded under the MB system can be associated with deforestation and non-compliance with legislation. These are relevant aspects that operators dealing with cocoa need to consider when using Rainforest Alliance as support for fulfilling their due diligence obligations. The scheme required that products sold as certified can be traced back to the certified farm were these were produced. Rainforest Alliance was the only scheme that required the registration of the geolocation data of the farms. For large farms under group certification, and for individual certification, the scheme required that this information is provided in the form of a polygon. For small farms under group certification, there is an improvement approach. At first, at least 10% of the farms must be represented as polygons, while the others can be represented as a location point. In the next certification cycle (3 years), at least 30% of the farms must be represented by polygons, increasing to 100% in the second certification cycle (6 years).

With this system, the certified products can potentially be traced back to the geolocation of the farm where they were produced, as long as this information is disclosed to operators along with the other information listed in the traceability requirements. However, further investigation is necessary to understand if this is possible, as the scheme does not mention if this information can be accessed by third parties. The potential gaps identified were plots of land larger than 4 ha still represented as points at the begging of certification, the cases where one farm can be interpreted as having more than one plot of land according to the EUDR definition, and the scheme not providing the time range of production.

Principle C

The scheme required that management conducts a risk assessment in relation to the requirements of the standard, by using a risk assessment tool, at least every three years. The risk assessment may be reviewed and updated yearly. The risk assessment tool consists of a questionnaire related to the scheme's requirements, along with risk mitigation measures for risks identified.

The scheme also required CHs to carry out a yearly self-assessment to evaluate their own compliance with all relevant requirements in the standard. CHs must make a management plan that includes the goals and actions based on the results of the risk assessment and self-assessment.

Furthermore, CHs must also have a grievance mechanism in place that enables individuals, workers, communities, and/or civil society, including whistleblowers, to raise complaints related to the CHs' business activities. A guidance document provided guidelines on the grievance mechanism. On the other hand, the scheme did provide requirements for an effective management system for the implementing applicable requirements (e.g., documented procedures and records, distribution of responsibilities, human and economic resources, competence).

Whenever the CH does not fulfil any applicable requirements, a NC is raised. The maximum time for closing a NC (meaning undertake the corrective actions and submit evidence to the CB) is ten weeks. If the corrective action demands more time, it must at least be implemented within the timeframe.

The CB may decide not to award the certificate or to immediately cancel the current certificate in a series of cases. Among them, in the case of irreversible practices that cannot be corrected (which includes conversion of natural forest after January 1st, 2014) and in the case of violations of applicable national,

regional, local, or sectoral law related to the requirements in the standard. However, the wording used by the scheme (i.e., "may decide") indicated that there is no guarantee that certificate will be cancelled in these cases. Therefore, considering both the gaps identified in Principle A and the evidence found for handling NCs, there it is possible to find Rainforest Alliance products associated with deforestation and non-compliance with legislation. Further investigation is needed to understand how the scheme addresses NCs and corrective actions related to these topics.

The scheme required that CBs are accredited according to ISO/IEC 17065 or ISO/IEC 17021 documents, thus covering relevant requirements for impartiality and competence, while also providing additional requirements for these aspects (e.g., details on the structure and qualification of CB personnel). On the other hand, even though one surveillance audit was required to occur every year, the timeframe adopted allowed for checks in intervals longer than 12 months. The scheme had clear and extensive rules on data sources for conformity assessment, which included management system audit and document review (following specific procedures for selecting relevant document and sampling), interview with workers (following specific procedures for calculating the number of worker interviews and worker files), stakeholder consultation, and farm visits (with specific rules for sampling the farms, purchase/buying centres, processing units and other facilities to be sampled in the audits). The scheme adopted a risk-based approach (increased samples in contexts of high risk of non-compliance).

The scheme presented requirements for group management to assure internal compliance across group members. These included dedicating adequate resources and staff to the implementation of the standard, as well as the assessment and improvement of its own capacity. Group managed was also required to carry out a risk assessment in relation to the requirements of the standard, as well as a yearly self-assessment of its own compliance, and compliance of actors in the certification scope, with all applicable certification requirements.

Group management must implement an internal inspection procedure, including checks on farm members, processing and/or storing sites, and subcontractors. These must be inspected internally before each external visit, covering all applicable requirements in the first year of certification and covering the results of the risk assessment and external audits in the consecutive years. Group management must also develop a management plan, which considers the risk assessment, the self-evaluation, and the internal inspection. It must also have its procedures for approval and sanctions in relation to compliance of group members, as well as a grievance mechanism in place.

A complete directory with relevant documents for the Rainforest Alliance system was publicly available online. The scheme also provides a list of CHs, including their status as valid or not. The schemes presented a Code of Conduct, where anti-corruption rules are established. There are also clear policies, procedures and channels to handles complaints related to the scheme. However, no evidence was found that summaries of audit reports are made publicly available.

4.3.4 Roundtable on Sustainable Palm Oil (RSPO)

RSPO provided different scopes for different actors in the palm oil sector. The P&C standard applies to companies and growers. Group certification is possible for smallholders and medium growers producing fresh fruit bunches (FFB), which must also comply with the P&C standard. There is also a standard for Independent Smallholders (ISH), which is another category of group certification. The supply chain standard applies to any organization taking legal ownership and physically handling RSPO certified products. Group certification for supply chain is also available. The main findings are presented next by each Principle. Refer to Annex 7 for the specific requirements mentioned in the text.

Principle A

The P&C standard required that land clearing since November of 2005 has not damaged primary forest or any area required to protect or enhance HCVs. Furthermore, that land clearing since November 15th of 2018, has not damaged HCVs or HCS forests. Any new land clearing after this date must be preceded by an HCV-HCS assessment. HCS forests are those identified using the High Carbon Stock Approach (HCSA) Toolkit.

Whenever conversion of land occurred prior to HCV assessment since November of 2005, or prior to HCV-HCSA assessment since November 15th of 2018, a Remediation and Compensation Procedure (RaCP) applies. This inadequate conversion is said to have occurred due to unfamiliarity with RSPO's requirements at the time, activities by previous owners, mistakes, or poorly implemented operational procedures.

Land clearing was defined as conversion of land from one land use to another. However, clearing of less than 10 ha is not considered new land clearing within existing certified units. In the case of the ISH standard, there was a requirement that new planting since November of 2019 does not replace HCV and HCS forests.

Gaps identified for this scheme were the partial prohibition of deforestation, limited to HCVs and HCS forests, as well as the threshold to define land clearing. Therefore, there was room for deforestation of forests not falling under the scope of HCVs or HCS forests, as well as areas below 10 ha.

The P&C standard required compliance with all applicable local, national, and ratified international laws and regulations. Relevant legislation for this requirement addressed items (a), (b), (d), (e), (f) and (g), while legislation related to item (h) is not mentioned. The ISH standard required assurance of legality, respect for land rights and community wellbeing, addressing items (a), (d), (e), (f) and (g), while items (b) and (h) were not mentioned. The supply chain standard did not require compliance with legislation.

The P&C standard required that all contractors providing operational services and supplying labour, and FFB suppliers, comply with legal requirements. For this, contracts must contain specific clauses on meeting applicable legal requirements, and this can be demonstrated by the third-party. The supply chain standard also required that outsourced activities comply with the standard's requirements. However, as presented before, this does not include compliance with legislation.

Principle B

The scheme provided three types of traceability systems: a) IP, where there is no mixing of certified and non-certified products, and the certified products can be traced back to a single RSPO certified IP mill; b) SG, where there is no mixing of certified and non-certified products, and the certified products are guaranteed to come from certified sources; and c) MB, which allows for the mixing of certified and non-certified product, while controlling for the overall qualities at the single site level. Only IP and SG systems guarantee that certified products come from certified sources, and therefore follow the social and environmental requirements from the scheme. Thus, considering which traceability system is implemented by suppliers represent a relevant information for operators.

The scheme required the registration of a series of information for the purchase of sale of certified products. This included name and address of buyer and seller, date of shipment/delivery and document issue, product description (including the supply chain model), quantity of product, certificate number of the seller and a unique identification number.

The IP system allows traceability back to one RSPO certified mill. However, traceability to the mill does not satisfy the EUDR requirement of the geolocation of the plot of land. Farms where the commodity was grown are still not identifiable. The time range of production was also not covered. The records related to the requirements of this standard must be kept for at least two years.

The scheme required that sites managing certified products under the IP and SG systems assure physical isolation from non-certified oil palm products, including during transport and storage to strive for 100% separation. In the case of IP, certified products must also be uniquely identifiable to a single RSPO certified mail and be kept separated from oil palm products from other certified mills.

The general requirements for the supply chain stated that sites must have written procedures and/or work instructions or equivalent management tools to ensure the implementation of all elements of the applicable supply chain model specified. This included complete and up-to-date procedures, records, and reports, as well as the identification of the person(s) responsible. If the site has outsourced activities, third parties must also comply with the standard's requirements.

The MB system allows for the mixing of certified and non-certified products. No requirements controlling the origin of the non-certified products were identified. Thus, non-certified products entering the supply chain are not checked against any social and environmental performance and can be associated with deforestation and non-compliance with legislation. Operators using RSPO as support to fulfil their due diligence requirements must have this in mind.

Principle C

The scheme presented NIs for the generic P&C standard. The document guiding the development of NIs stated that indicators can be strengthened and raised from non-critical indicators to critical indicators, but not the other way around. Moreover, NIs do not include additional criteria, and provide specific guidance at least when it is required by the generic P&C standard. By checking the NIs for Indonesia and Malaysia, it was possible to observe that the criteria, indicators and guidance from the general P&C standard that are relevant for Principle A remained unchanged, with only the occasional addition of specific guidance.

The scheme requires that the unit of certification must have operating procedures, which are documented, implemented, and monitored. Furthermore, all staff, workers, scheme smallholders, outgrowers, and contract workers must be appropriately trained, including in relation to the requirements of the standard. The supply chain standard required documented procedures to ensure the implementation of the applicable requirements, including up-to-date procedures, records, and reports for demonstrating compliance. The scheme standard also set rules for internal audits, and training was required for personnel carrying out the tasks critical to the effective implementation of the standard.

The scheme required that NCs must be graded as minor or major in accordance with the status of the relevant indicator in the RSPO. Major NCs found during surveillance audits must be addressed within 90 days, after which the certificate is suspended and, if not addressed within the timeframe established, withdrawn. Further investigation is needed to understand the procedures to address noncompliances with requirements related to deforestation and compliance with law, such as if corrective actions can be proposed, and which cases lead to certificate maintenance or suspension/withdraw. Up to the evidence collected, there was no full guarantee of certificate suspension/withdraw for violating of these requirements, unless NCs are not addressed. This means that CHs can have a valid certificate, trade RSPO products and still be associated with deforestation and non-compliance with legislation.

In the standard for the certification systems for P&C and ISH, the scheme required that CBs develop systems and procedures for certification assessments consistent with the guidance in ISO/IEC 17021-1, while also complying with additional requirements from the standard (e.g., additional requirements for managing conflicts of interests, competence requirements for auditors and lead auditors). In the standard for the certification systems for supply chain, the scheme requires that CBs demonstrate that all aspects of their organization, systems, and procedures conform to the relevant provisions of the most recent revision of ISO/IEC 17065. It also defines requirements for managing conflict of interests and competence requirements for auditors.

After certification, annual surveillance audits are performed by CBs. The first surveillance audit must be conducted within 12 months of the certificate issue date, but not earlier than eight months after the certificate issue date. The subsequent annual surveillance audits must be conducted within 12 months of the licence expiration dates, but not earlier than eight months after the

expiration date. For conformity assessment against the P&C and the ISH standards, the scheme requires that objective evidence of conformity with applicable requirements must be collected through documentation review, field checks and interview with internal and external stakeholders. Specific procedures for stakeholder consultation and for sampling sites for audits were available. For supply chain conformity assessment, the scheme required that the CB have access to all relevant documents, field sites and personnel. The scheme required the review of management documentation, records, and verify compliance of outsourced activities. In the case of multi-site SP certification, the scheme provided a sampling strategy.

The scheme allowed for group certification of both producers and supply chain. Under the ISH standard, the scheme set a series of requirements for group management, including the appointment of a group manager, the plan and implementation of a internal control system (ICS), and a training plan covering applicable requirements, among others. The standard for group certification of FFB production offered another option for group certification. This standard also listed the system requirements for group management (e.g., responsibilities for group management, ICS). The ICS included the documentation of policies and procedures for operational management, as well as an internal audit programme of group members, also providing the minimum sample size for internal audits. For supply chain group certification, the scheme detailed rules for group management and group manager, responsibilities, operations, procedures, training, record keeping and internal audits.

All standards and other relevant documents were publicly available online. The list of producer and supply chain certificates were provided in two separate webpages, containing information on each certificate and their current status. It was not clear how often the list was updated. The scheme required that public summary of audit reports for P&C and ISH are made available online (in the CB and/or the RSPO websites). However, this was not the case for supply chain certification. No evidence was found that the scheme has a corruption policy, or similar. On the other hand, the scheme had a procedure in place to handle complaints and appeals, under the responsibility of the RSPO Secretariat.

4.3.5 Round Table on Responsible Soy Association (RTRS)

RTRS presented certification for production and CoC. For production, the scheme provides certification for different scopes: soybean production, biofuels, non-GMO soya production, and corn production. Group certification is also available. The CoC sets the requirements for organizations controlling RTRS products, including the CoC system options available. The main findings are presented next by each Principle. Refer to Annex 8 for the specific requirements mentioned in the text.

Principle A

The scheme required the responsible expansion of soya cultivation. For this, the scheme forbids the conversion after 2009 of areas from Category 1 from the

RTRS maps (meaning areas critical for biodiversity where stakeholders agree there should be no conversion of native vegetation into responsible soya production), or, when these maps are not available, the conversion of native forests, riparian vegetation, natural wetlands, steep slopes, and legally protected areas. Moreover, the scheme forbids the conversion after 2016 of any natural land (meaning land with native vegetation, including native forests, riparian vegetation, natural wetlands, grasslands, savannahs, prairies, and woodlands).

However, conversion can occur due to a legal obligation of verifiable emergency (e.g., construction of roads, transmission lines, firewalls). Moreover, a minimal level of conversion is allowed if there is a restoration plan in place, and if it accounts for 5% of the total size of the farm or less, but no more than 20 ha.

This conversion can be conducted for infrastructure purposes, or, in the case of producers that are not yet certified, for agricultural production, as long as conversion does not take place in a Category 1 area. The gaps identified to a full prohibition of deforestation are the limited types of forest included in the requirements (e.g., Category 1 areas, natural land), as well as the exceptions for deforestation. Therefore, there are windows for deforestation to occur for soybean production in farms under the scheme, and these windows must be taken into consideration by operators using RTRS as support for fulfilling their due diligence obligations.

The standard for producers required awareness and compliance with applicable local and national legislation. In turn, applicable legislation was set on NIs. Throughout the standard, requirements address items (a), (d), (e) and (g). Additional to these, the Brazilian NI also covered item (b). Item (f) was not directly mentioned, but several requirements were relevant for the topic. In the case of Paraguay, the standard referenced a report for the list of applicable laws in the country for agricultural production, which was not found during this assessment. Up to the evidence collected, only item (h) was not addressed. On the other hand, the CoC standard has no requirements related to compliance with legislation.

The standard for producers required that the requirements for responsible labour conditions are to be applied to both direct employees and to workers supplied by third parties (e.g., subcontractors). Operations must have a mechanism in place which enables producers to adequately verify the compliance of their service providers. No evidence was found on the extension of other requirements to subcontractors. The CoC standard required that independent third parties performing outsourced activities must comply with the intent and requirements of all applicable requirements. However, as previously presented, this does not include compliance with legislation.

Principle B

All organizations making claims on RTRS-certified products must implement a traceability system. A series of information must be recorded on invoices referred to soybeans supplied with RTRS claims, including the identification of organization and costumer (name, address other relevant information), date of

issue, description of the product, quantity, and certificate number. The geolocation of the plots of land used for production and the time range of production are not provided by the scheme.

RTRS-certified products can be managed under the MB system or under the SC system. MB allows the mixing of certified and non-certified material, as long as the output of RTRS MB material supplied to customers does not exceed the input of RTRS MB material. SG keeps the certified material separated and makes sure that material originates from RTRS certified farms. Specific requirements are set for multi-site, non-GMO, and EU RED modules. Only the SG system assures that products come from RTRS-certified farms and, therefore, are produced in accordance with the social and environmental requirements set by the scheme.

The CoC standard required that the organizations establish, implement, and maintain procedures to all applicable requirements (which is expected to include procedures in place for handling certified material). It also required the identification and recording of critical control points (e.g., points where there is a risk of uncontrolled mixing or substitution between RTRS certified and uncertified material).

For the SG system, organizations must guarantee that inputs come from RTRS certified material under SG system, and not MB. Organizations must have an effective system in place that is designed to ensure no intermixing between RTRS SG and non-RTRS SG material (e.g., classifying the first flow of product through the system as non-RTRS, when following a change from non-RTRS to RTRS). In the case of multi-site, beyond complying with the appropriate module, organizations must also undertake a risk assessment including all sites proposed to be included within the multi-site system, identifying the risk of unwanted and uncontrolled mixing or substitution of RTRS.

In the case of the MB system, no evidence was found of requirements for controlling the social and environmental performance of the non-RTRS entering the supply chain. This means that RTRS products under the MB system can be associated with deforestation and non-compliance with legislation. Thus, the CoC system is relevant for operators using this scheme as support for compliance with the EUDR.

Principle C

The international standard provided guidance for developing NIs. Principles, criteria and indicators were consistent across NIs. In fact, they remain unchanged and are provided in full at the beginning of the documents, with changes made only in the guidance. As presented in Principle A, some differences were observed in relation to the list of applicable laws for Brazil and Paraguay. Since the report referenced in the Paraguayan NI for the list of applicable laws could not be found during the assessment, further investigation is necessary to understand if the NIs can present inconsistencies at this level.

The standard for the production of responsible soya required the development of policies and procedures for some specific requirements (e.g., bribery, discrimination, health and safety, waste, irrigation). However, these did not comprehensively cover all requirements. There were also no requirements for the management system (e.g., human resources, responsibilities, competences). In turn, the CoC standards required that organizations establish responsibilities for compliance with the requirements, procedures, and training.

The scheme classified NCs as minor and major. Major NCs are those resulting in (or likely to result in) failure to achieve the objectives of a criterion, or failure in a significant part of the applied management system. NCs result in corrective action requests (CARs). Major NCs must be addressed within 30 days from when the CAR has been raised. If they are not addressed in this timeframe, the certificate is suspended for 60 days, and during this time no product can be sold as RTRS. If they are not addressed in these 60 days, then certificate is withdrawn. It was not clear whether CARs can be established when violating the rules for deforestation and compliance with legislation, which requires further investigation. Up to the evidence collected, there is no guarantee of certificate suspension/withdrawn due to NC with these requirements, unless they lead to major NCs that are not addressed in the expected timeframe. Thus, it is possible that RTRS products are associated with deforestation and noncompliance with law, especially when adding the gaps identified in Principle A.

The scheme required that CBs certifying responsible soya production comply with the requirements of ISO/IEC 17065, while proving additional requirements (e.g., policy and procedures for conflict of interests; minimum technical skills, and qualifications for auditors). The standard for CBs certifying CoC also covered these topics but had different requirements for the qualification of auditors.

During the five years of the certificate validity, the scheme required, at minimum, annual surveillance assessments. Annual surveillance audits should take place with a maximum of 15 months after the previous audit. For producers, the scheme required a public consultation process prior to conformity assessment. For the audits, the scheme required the assessment of documents and records, site evaluation, and interviews with directly affected stakeholders. For the CoC CHs, the scheme required the assessment of documents and records, site visits, and checks on outsourced activities. The CB was responsible for determining sufficient variety and number of documents, sites and stakeholders to make direct, factual observations to verify conformity. The sampling strategy was defined in the case of multi-site CoC certificate.

The scheme set requirements for the group manager and for group members. The scheme required that group manager establishes procedures and implements an internal audit programme to assure compliance by all group members. The scheme also set clear rules for sampling sites during conformity assessment of group certification, which depended on the total number of group members and the risk established by the CB (size of sample increased for medium and high risk).

All standards and other relevant documents are publicly available online. The list of producers and CoC certificates was provided in two separate webpages, which also included current certificate status. Further investigation is needed to assess how frequently the list is updated. Summaries of the audit reports for certification against the standard for responsible soya production, which

includes the assessment findings, shall be made publicly available online. On the other hand, the same did not apply to CoC certification. Finally, no evidence was found regarding an anti-corruption policy covering the scheme. However, the scheme presented a grievances procedure, establishing the process for filing, processing, and settling complaints/grievances.

4.4 Targeting producer countries

Figure 9 shows the contribution of each commodity to the deforestation risk imported by the EU between 2005 and 2018. Only commodities originated from the same dataset, and therefore comparable, are displayed (Pendrill *et al.*, 2022). Soybeans and oil palm fruit were the main contributors to the deforestation risk imported by the EU, followed by beef and buffalo meat, cocoa beans, green coffee, and natural rubber. The deforestation risk associated with wood products derived from the first version of the dataset (Pendrill *et al.*, 2020) was 218,134.6 ha between 2005 and 2017.



Figure 9: Total and relative contributions of commodities to the deforestation risk imported by the EU between 2005 and 2018.

The following subsections summarize the main producer countries from which the EU imported deforestation risk associated with the trade of each commodity based on the datasets developed by Pendrill *et al.* (2020 and 2022). The complete datasets used for these subsections are provided in Annexes 9 to 15.

4.4.1 Beef and buffalo meat

The geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of beef and buffalo meat between 2005 and 2018 is shown in Figure 10. The top 5 countries were Brazil, Paraguay, Australia, Uruguay and Chile, accounting together for 99.4% of the total deforestation risks (Figure 11). Brazil alone represented 93.4% of all the deforestation risk.



Figure 10: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of beef and buffalo meat between 2005 and 2018.



Small values not displayed in the chart are: Uruguay (0.4%), Chile (0.3%), and Others (0.6%).

Figure 11: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of beef and buffalo meat between 2005 and 2018.

The deforestation risk imported by the EU associated with beef and buffalo meat decreased sharply between 2006 and 2008. This is a reflection of the values reported in the FAOSTAT database for the trade of this commodity. Nevertheless, Brazil dominated the deforestation risk in all the years of analysis, while other countries had only a small contribution (Figure 12). Cyprus, which is an EU country, appeared among the top 5 producer countries between 2007

and 2011. By reviewing the deforestation risk attributed to the country in the dataset, Cyprus placed deforestation risk in the EU mainly due to its domestic consumption. This was not observed for any of the other commodities. However, the values attributed to the country were only marginal (0.3% of all deforestation between 2005 and 2018).



Figure 12: Trends of deforestation risk (ha) imported by the EU associated with the trade of beef and buffalo meat between 2005 and 2018, considering the top 5 countries for each year of analysis.

4.4.2 Cocoa beans

The geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of cocoa beans between 2005 and 2018 is shown in Figure 13. The top 5 countries were Côte d'Ivoire, Liberia, Indonesia, Peru and Cameroon, accounting together for around three quarters of the total deforestation (Figure 14). Other countries accounted for around one quarter, and deforestation was not dominated by a single country as for beef and buffalo meat. Côte d'Ivoire stood out with nearly 40% of all deforestation risk.



Figure 13: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of cocoa beans between 2005 and 2018.



Figure 14: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of cocoa beans between 2005 and 2018.

Some shifting trends were observed when analysing the contribution of the top 5 countries for each year in the dataset (Figure 15). Some countries were not placed on the overall top 5 producer countries, but had relevant contributions in some years (e.g., Papua New Guinea between 2005 and 2010, Congo between 2011 and 2018, and Ecuador between 2015 and 2018). The deforestation risk associated with Liberia for this commodity decreased overtime, while the risk associated with Peru increased. Côte d'Ivoire was the most relevant country for almost all years of analysis. The contribution of each country to the deforestation risk associated with this commodity was more variable when compared, for example, to beef and buffalo meat, for example.



Figure 15: Trends of deforestation risk (ha) imported by the EU associated with the trade of cocoa beans between 2005 and 2018, considering the top 5 countries for each year of analysis.

4.4.3 Green coffee

The geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of green coffee between 2005 and 2018 is shown in Figure 16. The top 5 countries were Honduras, Peru, Côte d'Ivoire, Colombia, and Uganda, accounting for around two thirds of the total deforestation (Figure 17). Other countries accounted for around one third. Deforestation risk was less concentrated compared to the other commodities, with Honduras occupying the highest position with 21.4%.



Figure 16: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of green coffee between 2005 and 2018.



Figure 17: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of green coffee between 2005 and 2018.

While the overall top 5 countries were among the main countries for every year of analysis, their individual contribution changed across the years (Figure 18). Honduras was the most relevant country between 2008 and 2014. Peru also had important contribution to deforestation between 2009 and 2018, with an increase in the last years of analysis. The contribution from Colombia to deforestation associated with this commodity increased in the last years of analysis, representing the highest deforestation risk between 2015 and 2018.

The deforestation risk associated with Indonesia was very similar to Uganda, but it decreased in the last years of analysis. Côte d'Ivoire had significant contribution between 2005 and 2007, and between 2011 and 2017, with a sharp decrease in the last year. Since the deforestation risk was not concentrated, other countries not showing up in the overall top 5 also had important contributions across the years (e.g., Brazil, Tanzania, and Congo in the first years of analysis).



Figure 18: Trends of deforestation risk (ha) imported by the EU associated with the trade of green coffee between 2005 and 2018, considering the top 5 countries for each year of analysis.

4.4.4 Palm oil fruit

The geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of palm oil fruit between 2005 and 2018 is shown in Figure 19. The top 5 countries were Indonesia, Malaysia, Papua New Guinea, Colombia and Honduras, accounting for 98.5% of the total deforestation (Figure 20). Deforestation risk was dominated by Indonesia, with 78.4%.



Figure 19: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of palm oil fruit between 2005 and 2018.



Small values not displayed in the chart are: Honduras (0.7%), and Others (1.5%).

Figure 20: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of palm oil fruit between 2005 and 2018.

Deforestation risk associated with palm oil fruit was dominated by Indonesia for all years (Figure 21). Other countries had smaller contributions, with Colombia showing a prominent increase in the last years of analysis (2016-2018). Malaysia and Papua New Guinea presented relevant contributions for all years but were overshadowed by the magnitude of deforestation associated with Indonesia.



Figure 21: Trends of deforestation risk (ha) imported by the EU associated with the trade of palm oil fruit between 2005 and 2018, considering the top 5 countries for each year of analysis.

4.4.5 Natural rubber

The geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of natural rubber between 2005 and 2018 is shown in Figure 22. The top 5 countries were Indonesia, Côte d'Ivoire, Malaysia, Thailand and Vietnam, accounting for 80.7% of the total deforestation (Figure 23). Such as for palm oil fruit, Indonesia accounted for most of the deforestation risk, with 46.3%.



Figure 22: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of natural rubber between 2005 and 2018.



Figure 23: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of natural rubber between 2005 and 2018.

The distribution of deforestation risk among the top 5 countries for each year of analysis was consistent across the years, with slight changes (Figure 24). Some
countries not included in the overall top 5 also had relevant contributions in some years (e.g., Papua New Guinea in the first years of analysis, Liberia and Cambodia in the last years of analysis).



Figure 24: Trends of deforestation risk (ha) imported by the EU associated with the trade of natural rubber between 2005 and 2018, considering the top 5 countries for each year of analysis.

4.4.6 Soybeans

The geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of soybeans between 2005 and 2018 is shown in Figure 25. The top 5 countries were Brazil, Paraguay, Argentina, Uruguay and Bolivia, accounting for 99.8% of the total deforestation (Figure 26). Such as for beef and buffalo meat, Brazil accounted for most of the deforestation risk, with 63.8%, followed by Paraguay (20.1%) and Argentina (15.6%).



Figure 25: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of soybeans between 2005 and 2018.



Small values not displayed in the chart are: Bolivia (0.2%), and Others (0.2%).

Figure 26: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of soybeans between 2005 and 2018.

There were important shifting trends for the deforestation risk associated with soybean (Figure 27). Deforestation levels decreased sharply between 2005 and 2010. Brazil was the more relevant producer country for all years. Argentina presented important contributions to deforestation between 2005 and 2008, which then decreased continuously between 2009 and 2014, reaching zero for the following years. On the other hand, the deforestation associated with Paraguay increased from 2005 to 2012, which then decreased for the following years. The deforestation risk for this country was still significant but was overshadowed by the magnitude of the deforestation risk associated with Brazil.

Other countries presented only a very small contribution to the deforestation risk in the years of analysis.



Figure 27: Trends of deforestation risk (ha) imported by the EU associated with the trade of soybeans between 2005 and 2018, considering the top 5 countries for each year of analysis.

4.4.7 Wood products

The geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of wood products between 2005 and 2017 is shown in Figure 28. The top 5 countries were Brazil, Chile, Uruguay, Côte d'Ivoire and Indonesia, accounting for 90.1% of the total deforestation (Figure 29). Such as for beef and buffalo meat, and for soybean, Brazil accounted for most of the deforestation risk (51.3%), followed by Chile (24.5%) and Uruguay (5.8%).



Figure 28: Geographical distribution of the deforestation risk (ha) imported by the EU associated with the trade of wood products between 2005 and 2017.



Figure 29: Top 5 producer countries linked to the deforestation risk (ha) imported by the EU associated with the trade of wood products between 2005 and 2017.

The overall top 5 countries were consistently the most important countries across the years of analysis, with some variations of their individual contributions (Figure 30). Brazil was the country that contributed the most to the deforestation associated with wood products for nearly all years, expect for 2005. Chile's contribution was also high between 2007 and 2017. Uruguay had high contributions for the years 2005, 2006 and 2010, but zero contribution for the other years. Other countries had isolated large contributions (e.g., Madagascar in 2006, Nicaragua in 2005), but not very relevant ones when compared to Brazil and Chile.



Figure 30: Trends of deforestation risk (ha) imported by the EU associated with the trade of wood products between 2005 and 2017, considering the top 5 countries for each year of analysis.

5. Discussion

In this chapter, the findings of this study are discussed, and their possible implications are presented. First, section 5.1 discusses the results found for the application of the assessment framework to the selected schemes. Section 5.2 deals with the procedure propose to prioritize producer countries for the assessment of VSS, discussing its consistency and applicability. Section 5.3 presents the managerial implications of the results, providing recommendations for operators and schemes. Finally, section 5.4 presents the limitations of this study and identifies future research opportunities.

5.1 Application of the assessment framework

The main gaps identified for targeted schemes are reported below, according to main themes they are linked to.

Prohibiting deforestation and forest degradation

Schemes were found to prohibit deforestation and forest degradation mainly for natural forests, protected areas, HCV and/or HCS. Although this clearly consists in a gap for compliance with the EUDR, which does not make any distinctions between types of forests, the magnitude of this gap is not clear.

Since forest protection regimes have been shown to be insufficient to stop deforestation (Wolf *et al.*, 2022), schemes addressing protected areas could further reinforce their conservation (Heilmayr *et al.*, 2020; Loveridge *et al.*, 2021). However, addressing protected areas alone would result in a significant gap, since only approximately 21% of the world's forests are under some form of legal protection (WRI, 2023).

The HCV framework was developed by FSC in 1999 to protect areas with exceptional ecological attributes, ecosystem services and social functions (Jennings *et al.*, 2003). HCV categories are: HCV1- Species Diversity, HCV2-Landscape-level ecosystems and mosaics, HCV3- Ecosystems and habitats, HCV4- Critical ecosystem services, HCV5- Community needs, and HCV6-Cultural values (FSC, 2023a).

The HCV framework has now extended to other contexts (Jennings *et al.*, 2003; Areendran *et al.*, 2020; Abbasnezhad and Abrams, 2022). However, most studies on HCV assessment are not covering tropical countries, and there are few studies investigating which proportion of forests, or other natural ecosystems, is classified as HCV (Areendran *et al.*, 2020). In Italy, for example, an assessment conducted at the national scale indicated that HCV covered 66% of the total forest area in the country (Maesano *et al.*, 2016). Therefore, while HCVs might help detecting important – *lato sensu* – forests areas, they do not cover all forest areas within a certain country or region, thus confirming a gap with EUDR requirements.

The HCSA Toolkit, as adopted by RSPO, defines 35 tC ha⁻¹ as the threshold to classify HCS (Rosoman *et al.*, 2017). The following classes are included: high density forest (>150 tC ha⁻¹), medium density forest (90-150 tC ha⁻¹), low

density forest (75-90 tC ha⁻¹), and young regenerating forest (35-75 tC ha⁻¹). The classes not considered as HCS are scrub (15-35tC ha⁻¹), and open land (0-15 tC ha⁻¹) (Rosoman *et al.*, 2017).

Austin *et al.* (2017) investigated the area from Gabon classified as HCV and HCS to determine the area suitable for agricultural expansion. Results indicated that 73% of the country's area was classified as HCV, which would mean the protection of 76% of the country's forest carbon stocks. For HCS, the authors considered two thresholds to set forests apart from scrub and open land: 75 and 188 tC ha⁻¹. Results indicated that 87 and 80% of the country's area was classified as HCS when considering these thresholds, respectively. This would mean the protection of 93-99% of the country's forest carbon stocks. Results were not reported in relation to total forest area. Because the threshold used by Austin *et al.* (2017) was higher than the one proposed by Rosoman *et al.* (2017), an even larger area of Gabon could be potentially classified as HCS.

Leijten *et al.* (2020) mapped HCV and HCS forests at the global level. HCV forests were identified through indicators covering all categories (e.g., biodiversity hotspots, key biodiversity areas, and nationally designated protected areas for HCV1, presence of indigenous communities for HCV5, UNESCO World Heritage Sites for HCV6). HCV forests were found to cover 65% of the world's forest area. When only the tropics were considered, this value raised to 73%. HCS forests (\geq 35 tC ha⁻¹) were found to cover 80% of the world's forest area. This value decreased to 68% when a higher threshold was considered (\geq 75 tC ha⁻¹).

Lang *et al.* (2021) mapped HCS for Indonesia, Malaysia, and the Philippines using remote sensing data. Results indicated that HCS represented 46, 50 and 30% of total country area for Indonesia, Malaysia, and the Philippines, respectively. In turn, open land and scrub represented 44, 30 and 63% for these countries, in that same order. The authors did not discuss how much this represents in terms of total forest area. However, the values reported for open land and scrub can potentially contain forest.

According to Rosoman *et al.* (2017), scrub is defined as areas that were once forest but have been cleared in the recent past. In turn, open land is defined as recently cleared land with mostly grass or crops. If these definitions are confronted against the EUDR definition of forest, scrub can potentially contain forest if the thresholds for area, tree height and canopy cover are met (i.e., land spanning more than 0.5 ha with trees higher than 5 metres and a canopy cover of more than 10%). To reinforce this, the definition for scrub also accounts for scattered pioneer tree species, and occasional patches of older forest (Rosoman *et al.*, 2017).

Several schemes created for the certification of agricultural commodities produced in the tropics, such as palm oil, soya, sugar, and cocoa, have also adopted the HCV framework (Edwards *et al.*, 2011). However, this is not sufficient to address deforestation. The protection of HCV linked to large landscape-level forests, for example, was found to allow high levels of agricultural expansion at the expense of smaller forest patches that have relevant conservation value in agricultural landscapes (Edwards *et al.*, 2011).

It is unclear how much of the forest area contained in the land certified by the selected schemes is classified as HCV and HCS, especially in tropical countries. For countries in the Adria-Balkan region, for example, HCV cover between 11-35% of FSC-certified forests (FSC Adria-Balkan Region, 2022a, 2022b, 2022c, 2022d). However, figures for countries relevant for this study are not widely available. RSPO provides maps of probability for HCV1-3 for several countries, which would allow some level of assessment (RSPO, 2023). However, the figures of HCV and HCS in relation to total forest area are not directly reported by the scheme.

Overall, studies indicate considerable room for forests not being classified as HCV and HCS. Furthermore, methodologies to conduct HCV assessments are quite variable across studies, using mixed approaches with remote sensing and stakeholder consultation, and studies often focus only on one HCV category (Areendran *et al.*, 2020; Abbasnezhad and Abrams, 2022).

While the HCV framework can be an important tool to improve natural resources management (Areendran *et al.*, 2020; Leijten *et al.*, 2020; Abbasnezhad and Abrams, 2022), it is unclear to which extent it can avoid deforestation in the scope of certification schemes (Senior *et al.*, 2015; Areendran *et al.*, 2020). The rationale of identifying, managing, and monitoring HCV, indeed, seems to be aiming to conserve and enhance valuable areas rather than avoiding deforestation or deforestation *tout-court*. The HCS approach seems to provide wider coverage of the total forest area, but the scrub category can potentially contain forest as defined by the EUDR. A mixed approach considering both HCV and HCS in the requirements for no deforestation could deliver better results in highly forested countries (Austin *et al.*, 2017).

RTRS, on the other hand, does not rely on the HCV and HCS approaches, but rather prohibits conversion of areas classified as Category 1 in the RTRS maps (i.e., areas critical for biodiversity where stakeholders agree there should be no conversion of native vegetation into responsible soya production). Although these maps are available for Argentina, Brazil, and Paraguay (RTRS, 2020), it is also unclear how much of the total forest area is covered by this category.

Another aspect to consider is that schemes for agricultural commodities did not address the conversion of planted forests into cropland. According to FAO (2020a), planted forests represent 290 million ha (7%) of the total forest area worldwide, of which 131 million ha (3%) are plantations (i.e., forests which are intensively managed, composed of one or two species, even-age, and planted with regular spacing). Therefore, these forests are often overlooked, although their vulnerability to conversion into agriculture is not clear because literature is mainly focused on the conversion of natural forests. Furthermore, these forests also include, as a subgroup, forest plantations that might not be considered as forests within national legislation, though meeting FAO's definition for forests. In Italy, for example, poplar plantations on agricultural lands are explicitly not considered as forest to provide some flexibility to farmers to return these lands back into non-woody croplands (Ferré *et al.*, 2014).

Besides not covering all forests, schemes also presented exceptions allowing deforestation and forest degradation (e.g., minor conversion for Rainforest Alliance, minimal level of conversion for RTRS, conversion affecting a very limited portion of the MU for FSC). For some schemes, these exceptions were attached to remediation measures. RSPO, for example, requires that CHs apply a remediation and compensation procedure when land clearing occurred without an adequate HCV-HCS assessment. RSPO has adopted this posture for increasing the inclusion of oil palm growers that would otherwise not qualify for certification (RSPO, 2015). Rainforest Alliance and RTRS also require a restoration plan in the cases allowing small levels of deforestation.

On the other hand, no exceptions are allowed by the EUDR, which prohibits deforestation or forest degradation completely after the cut-off date. In fact, remediating deforestation cannot deliver the same conservation value as preserving existing forests. Attributes of restored forests (e.g., species composition, structure, and carbon stock) do not match those from mature forests or would take a long time to recover (Sekercioglu *et al.*, 2012; Sayer *et al.*, 2017; Trujillo-Miranda *et al.*, 2018; Romanelli *et al.*, 2022). The same goes for remediating forest degradation as defined by the EUDR, since attributes of forests, especially for tropical biodiversity (Barlow *et al.*, 2007; Bremer and Farley, 2010; Guillaume *et al.* 2018; Hua *et al.*, 2022).

Covering relevant legislation

Most schemes fell short in covering all relevant legislation as defined by the EUDR, especially when considering both the production and supply chain levels. Since the list is quite extensive, one might argue that gaps were bound to be observed. In this study, such gaps were identified – though to different extents – for each of the selected schemes, which could support operators in identifying the main areas to develop further investigation.

Results also indicated soft mechanisms to handle violations of applicable requirements, which could potentially lead to the maintenance of valid certificates for CHs transgressing national laws and conducting deforestation. This result is supported by empirical evidence provided by previous studies. Halalisan *et al.* (2016) analysed NCs with FSC standards in five European countries (Bosnia and Herzegovina, Estonia, Romania, Slovenia, and UK), based on public summaries of audit reports from 31 FM certificates. In total, 253 NCs were identified, from which 60.8% were from Romania. NCs with Principle 1 (Compliance with laws) constituted 8% of the NCs identified.

Buliga and Nichiforel (2019) analysed NCs with FSC standards in Romania between 2008 and 2017, based on 108 public summaries of audit reports from 27 valid and three terminated FM certificates. The authors found 468 CARs issued by CBs for certification, re-certification, and surveillance audits. 54% of the identified NCs represented a violation of laws, especially related to harvesting operation.

Trishkin *et al.* (2019) investigated NCs with FSC standards in North-western Russia between 2011 and 2015. The number of FM certificates grew from 29 in

2011 to 69 in 2015. In total, 101 minor NCs with Principle 1 were identified, representing between 4 and 9% of NCs in the analysed period. In turn, 13 major NCs with Principle 1 were identified, representing between 1 and 9% of all NCs within the period. Overall, 6.1% of the NCs identified in all the analysed years were related to Principle 1.

Bishop and Carlson (2022) analysed a timeseries of annual audit reports for RSPO, covering two-thirds of all certified oil palm growers in Indonesia as of December of 2015. The study was based on 262 reports, issued for 114 certified growers. In total, 1,767 NCs were identified, of which 104 (5.9%) were linked to laws and regulations, the fourth most frequent theme. 60.6% of these were classified as minor NCs, while 39.4% were classified as major. This value is most likely an underestimation, as laws and regulations are also a component of other themes analysed (e.g., employment). The studies presented indicate that breaches in requirements for compliance with legislation are not rare. Therefore, it is critical that operators conduct their own investigations.

Traceability

From all the information that operators must collect, one of the key challenges for schemes would be to implement a system that allows to trace relevant commodities back to the plot of land used to produced them, as well as the date or time range of production. Traceability to farm is possible, as several companies from agricultural sectors have already been implementing such systems (zu Ermgassen *et al.*, 2022). RSPO currently provides traceability to mill and its supply base – which is generally located within 50 km from the mill due to the need to process the palm oil fruit quickly – and intends to enhance this system in the next few years with a view to achieve traceability to plantation (CAOBISCO *et al.*, 2022).

Moreover, new technologies can support the implementation of systems to satisfy EUDR requirements, as the recent applications of blockchain for traceability in agriculture and forestry (Demestichas *et al.*, 2020; Mirabelli and Solina, 2020; He and Turner, 2022; FSC, 2023b). On the other hand, regulatory gaps can be barriers in the adoption of new technologies (De Filippi *et al.*, 2022), and the disclosure of farm geolocation data to EU operators can be undermined by regulatory frameworks in producer countries (European Coffee Federation, 2022). Moreover, public disclosure of these data may result in disclosure of sensitive business data about the supply chain that companies might not be willing to share.

Furthermore, such traceability systems can be highly complicated for supply chains with high complexity levels and dominated by smallholders (Renier *et al.*, 2023). The European Coffee Federation (2022) highlighted that one single coffee shipment can contain material from 4,500 different individual locations, and therefore the geolocation requirement can represent a burden for operators. Therefore, the exclusion of groups with low technical and financial capacities to adapt to the new rules continues to be one of the main concerns for an equitable implementation of the EUDR (CAOBISCO *et al.*, 2022; Grabs *et al.*, 2021; Fairtrade, 2022; Zhunusova *et al.*, 2022), ultimately resulting in unfair (or, at least, disproportionate) conditions/burdens for smallholders.

MB systems for Fairtrade, Rainforest Alliance, RSPO and RTRS were found to be inadequate for providing operators with complementary information on the compliance of the relevant commodities with the EUDR. According to Mol and Oosterveer (2015), most schemes certifying agricultural commodities offer segregation systems. On the other hand, MB and book and claim systems represent a high market share for several schemes, including the schemes addressed in this study.

Hinkes and Peter (2020) analysed 16 certification schemes for soya and found that only five of them could contribute to ensuring deforestation-free supply chains. One of the key elements considered by the authors was the traceability systems adopted by such schemes. Options for CoC certification were dominated by systems allowing the mix of certified and conventional soya. Therefore, the type of traceability systems deserves proper consideration by operators relying on certification or other third-party verified schemes.

A comparative assessment with existing studies

Findings from this study corroborate with results from previous studies with similar scopes, though not directly linked to the EUDR. Greenpeace (2021a) analysed if nine major certification schemes could be considered effective instruments to address global deforestation, forest degradation and other ecosystem conversion and associated human rights abuses. The schemes analysed presented several short comings.

Standards were found to have insufficient requirements to prevent social and environmental harms, such as deforestation. Moreover, schemes had variable scopes, covering relevant issues to different extents, and presenting less detailed and robust requirement for supply chain entities. Assurance procedures were also found to be inadequate in some cases (e.g., verification only for the primary producer or processor, low independence of the third-party performing conformity assessment, intrinsic limitations of audits for allowing CHs to temporarily forge conditions). Furthermore, the study also called attention to the traceability systems allowing material from unknown sources to be greenlabelled (Greenpeace, 2021a).

The study considered that implementation of the standards was weak for all schemes, identifying breaches linked to deforestation, HCV destruction, and human rights abuse. These findings were supported by case studies illustrating implementation failures and violations reported for RTRS, FSC and RSPO. Moreover, schemes were found not to apply strong sanctions for CHs and CBs violating standards, nor effective compensatory remediation and restoration procedures for such cases. Furthermore, most schemes were found have the majority of representatives from the businesses and industries they cover, which could affect decision making toward less strict requirements. (Greenpeace, 2021a).

Preferred by Nature (2021) also identified some of these gaps, but the study focused on certification and verification schemes for wood-based products under the perspective of the EUTR. The five schemes included in the study fully or partially covered the five categories of applicable legislation as defined by the

EUTR, except for trade and customs by PEFC non-certified material. Timber harvesting and third parties' rights concerning use and tenure were the categories mostly reported as fully covered. In turn, the remaining categories were only partially covered by most schemes (Preferred by Nature, 2021).

Many gaps were identified in relation to legal requirements for supply chain entities, which included legal registration, taxes and fees, and trade and transport, which were not covered by several schemes. Gaps related to CB requirements for auditing and certification, procedural requirements for CHs, risk management in the supply chain, and transparency were also identified, although indicators were at least partially covered (Preferred by Nature, 2021).

Preferred by Nature (2021) also expressed the concern that CHs were found to remain certified even when non-compliance with legislation was identified during audits, which would lead to non-compliance with the EUTR. Overall, outcomes were similar to the ones found in our study.

Despite of the gaps identified, Preferred by Nature (2021) argued that these schemes could provide significant support for operators, as several activities performed by the schemes (e.g., desk-based evaluation, regular on-site conformity assessments, stakeholder consultation, supply chain traceability) can provide relevant information that is not readily available through other means. Obtaining this information independently could be costly, time consuming and less effective.

Ultimately, the schemes assessed by this study cannot guarantee that the relevant products are deforestation-free and produced in accordance with relevant legislation in the country of production. Nevertheless, they can potentially assist the EUDR implementation through on-the-ground implementation and reinforcement of their requirements in producer countries, while providing verified information to operators exercising due diligence (Marx, 2018). In this way, the EUDR and certification and other third-party verified schemes can reinforce each other in preventing deforestation associated with the trade of FRCs (Lambin *et al.*, 2014; Pirard *et al.*, 2023).

5.2 Targeting producer countries

The procedure proposed to prioritize producer countries for the application of the assessment framework is a simplified approach using secondary data and proxy variables. However, previous studies suggest future research to focus on schemes operating in the countries indicated in section 4.4.

Brazil has been largely associated with deforestation for production of cattle and soya in the Amazon and Cerrado regions, especially for international markets (Morton *et al.*, 2006; Carvalho *et al.*, 2021; Skidmore *et al.*, 2021; West *et al.*, 2022; da Silva *et al.*, 2023). Deforestation is typically conducted illegally in private properties and rural settlements (Camara *et al.*, 2023).

Derived products such as leather also play a significant role, such as the case of the Italian leather industry, for example (Mammadova *et al.*, 2022). In 2018, a share of 22% of bovine hides and leather imports destined to this industry were sourced from Brazil, with a potential risk of embodied deforestation since

leather was coming mainly from agricultural frontier states and risk management practices were not employed (Mammadova *et al.*, 2022).

While voluntary initiatives such as the G4 Agreement and Soy Moratorium have collaborated for reducing deforestation in the region, it has not been sufficient to stop the problem (Silva and Lima, 2018; Heilmayr *et al.*, 2020; Lourençoni *et al.*, 2021; Levy *et al.*, 2023). Considering the findings from sections 4.4.1 and 4.4.6, and adding the evidence from previous studies, Brazil should be the priority for future research addressing schemes that cover cattle and soya. It should also be considered that Cerrado areas might not necessarily qualify as forests according to the EUDR definition, as well as other native ecosystems from South America (Azevedo *et al.*, 2022), which reinforces the idea to enlarge the scope of the Regulation to other ecosystems – i.e., different from forests – that might be affected by agriculture activities linked to FRCs.

Paraguay and Argentina are also relevant countries to conduct future assessments of schemes covering soya, which drives large deforestation in the Gran Chaco region (Fehlenberg *et al.*, 2017; Hoyos *et al.*, 2018; Mitchell *et al.*, 2012). Since soya was the main contributor to the deforestation risk imported by the EU between 2005 and 2018, schemes covering this commodity are of particular interest. Cattle ranching is also relevant for the Gran Chaco region, in particular for Paraguay, where also charcoal production is largely considered a deforestation driver for this dry forest ecosystems (Cannon, 2017).

Nevertheless, providing an assessment for cattle could be a challenge, due to the complexity of this industrial segment and the fact that, besides including large multinational companies, it also involves a high number of smallholders and cattle growers operating upstream. High fragmentation coupled with high levels of informality and the consequent lack of transparency in/accessibility to data may represent a barrier to the effective development and implementation of initiatives to tackle deforestation associated to the cattle sector (Pacheco and Poccard-Chapuis, 2012; zu Ermgassen *et al.*, 2020a). For example, one of the main initiatives operating in Brazil has discontinued for not achieving the expected impact (Alves-Pinto *et al.*, 2015; Rainforest Alliance, 2020). Furthermore, the Global Roundtable for Sustainable Beef (GRSB) has published a document with P&C for sustainable beef production but did not express the intention of creating a certification program (GRSB, 2017). Therefore, a more rigorous screening process could be adopted.

Côte d'Ivoire is one of the main cocoa producers and exporters, and the connection between deforestation and cocoa expansion in this country is well known due to policies supporting full sun cocoa varieties rather than shadow-tolerant ones that might be exploited within agroforestry systems (Ruf *et al.*, 2014; Barima *et al.*, 2016; Carodenuto and Buluran, 2020). Cocoa cultivation was found to be an underlying driver of 37.4% of forest loss in protected areas in Côte d'Ivoire between 2000 and 2020 (Kalischek *et al.*, 2023; Renier *et al.*, 2023). Furthermore, trade of cocoa products between Côte d'Ivoire and the EU was found to drive the deforestation of 838,000 ha in the country between 2000 and 2015 (Renier *et al.*, 2023).

Liberia had the second largest share of deforestation embodied in cocoa beans imported by the EU, although its contribution was quite lower when compared to

Côte d'Ivoire. On the other hand, land suitability for cocoa cultivation in Liberia country is high and expansion could affect areas of high significance for biodiversity conservation (Sassen *et al.*, 2022). Furthermore, deforestation commitments in the cocoa sector, such as the Cocoa and Forests Initiative (CFI), are falling short to deliver the expected impacts (Carodenuto and Buluran, 2020).

Ghana is also a significant cocoa producer, and this commodity drives large deforestation areas in the country (Kalischek *et al.*, 2023). However, the dataset used in this study did not report deforestation risk associated with the trade of cocoa beans for Ghana. Pérez (2022) reported similar levels of deforestation risk associated with EU imports of cocoa beans between 2003 and 2020 from Liberia and Ghana. Therefore, the lack of deforestation risk associated with cocoa beans for Ghana in Pendrill *et al.* (2022) seems to be inconsistent when considering previous studies.

Côte d'Ivoire and Liberia could be considered the priority producer countries for future assessments of schemes covering cocoa. However, the placement of Ghana in the rank of producer countries deserves further consideration, as previous studies indicate that is country is a relevant source of deforestation risk associated with cocoa production.

Among the commodities studied, coffee had the widest distribution of deforestation risk across producer countries. Furthermore, literature covering deforestation associated coffee expansion in the identified producer countries was quite limited compared to the other commodities.

Nagendra *et al.* (2003) found that deforestation in Western Honduras was linked to government policies promoting expansion of mountain coffee production for export. Usva *et al.* (2020) found great contribution of land use change for coffee production in Honduras and Nicaragua to the carbon footprint of coffee consumed in Finland. However, as presented in section 4.4.3, deforestation associated with green coffee in Honduras decreased in the last years of analysis.

On the other hand, Colombia and Peru presented an increasing trend of deforestation risk associated with green coffee exported to the EU in the last years. Colombia is a large player in the coffee sector and contributes significantly to the deforestation embodied in this commodity traded internationally (Treanor and Saunders, 2021). However, studies investigating deforestation associated with coffee production in the country are scarce. In turn, large forest recover has been reported for the country (Sánchez-Cuervo *et al.*, 2012).

While previous studies have identified the prominent role of Peru as a coffee producer in Latin America (Tulet, 2010), studies linking coffee production with deforestation in this country are also scarce. Rainforest Alliance (2021) published an assessment of Peruvian coffee exploring several sustainability metrics. Coffee cultivation in Peru was found to represent a medium-high risk for the conservation of forests and HCV, based on literature and expert surveys. On the other hand, the deforestation risk associated with Peruvian coffee has only a marginal importance in the global market, which is dominated by Honduras (Treanor and Saunders, 2021). Nevertheless, expansion of cocoa,

coffee, and oil palm still represent a risk for the Peruvian Amazon Forest (Castro-Nunez *et al.*, 2021).

Therefore, further studies are needed to better understand the dynamics of land use change associated with coffee In Colombia and Peru, which would improve the understanding of the deforestation risk reported in this study based on Pendrill *et al.* (2022). Nevertheless, future assessments of schemes covering coffee could focus on Honduras, due to its historical and continuing contribution to deforestation risk, and also on Colombia and Peru, due to their increasing contribution.

Indonesia and Malaysia produce over 80% of the world's palm oil (USDA, 2023), and large areas have been historically deforested to produce this commodity (Wicke *et al.*, 2011; Numata *et al.*, 2022; Turner and Snaddon, 2023). Deforestation led by oil palm expansion in Indonesia and Malaysia was responsible for the emission of approximately 50.2 TgC per year between 2001 and 2015 (Xu *et al.*, 2022). Based on future projections of palm oil demand for the international market, Xin *et al.* (2022) estimated that 8 to 22% of secondary forest could be lost for oil palm plantations in Indonesia by 2050 if the expansion follows the historical pathways. The increasing demand for palm oil-based biofuels is one of the key concerns for future expansion of oil palm plantations and forest conversion (Hinkes, 2020; Khatiwada *et al.*, 2021).

Voluntary initiatives, such as corporate commitments for no deforestation, no peat, no exploitation (NDPE) and voluntary certification, are among the key elements governing palm oil sustainability (Dermawan *et al.*, 2022; Limaho *et al.*, 2022). Furthermore, other major schemes (e.g., ISPO, MSPO) cover large oil palm plantations in these countries (Abdul Majid *et al.*, 2021) Therefore, Indonesia and Malaysia could be considered the priority countries for future assessments of schemes covering palm oil. Since this commodity was one the main contributors to the deforestation risk imported by the EU between 2005 and 2018, schemes covering palm oil should be of particular concern. Interestingly, the palm oil expansion can also have indirect deforestation effects. For example, it has been reported that recent expansion of plantations in Indonesia and, above all, Malaysia have occurred also at the expense of rubber to close countries like Cambodia, Laos, and Myanmar threatening their remaining natural habitats (Jayathilake *et al.*, 2023).

The deforestation risk associated with natural rubber was mainly linked to Indonesia and Côte d'Ivoire. Previous studies had already identified this link, which supports the inclusion of natural rubber in the scope of the EUDR (Warren-Thomas *et al.*, 2023). In the Indonesian island of Sumatra, large tracks of forests have been cleared is the past few decades, mainly by the rubber and oil palm industries (Laumonier *et al.*, 2010). Monoculture rubber plantations in the Bungo district, in Jambi, Sumatra, increased from 3% to over 40% between 1973 and 2005 (Ekadinata and Vincent, 2011). Conversion of natural forests into rubber plantations have been found to have negative effects on biodiversity in the country (Ramos *et al.*, 2022).

Natural rubber has also been reported to contribute to deforestation in Côte d'Ivoire. Ouattara *et al.* (2021) found that rubber plantations had expanded from

8.5 to 10.5% in the Southeastern region of the country between 2016 and 2019, replacing 3% of dense forests and 9% of secondary and degraded forests. Therefore, future assessments of schemes covering natural rubber could focus on Indonesia and Côte d'Ivoire.

As for forestry products, the dataset used in this study specifies the category as "wood products (forest plantation)" (Pendrill *et al.*, 2020). This is because the authors attributed deforestation risk based on expanding land uses, thus capturing only the role of expanding plantations (Pendrill *et al.*, 2019a). Brazil has an area of 9.9 million ha of forests plantations, mainly for *Eucalyptus* spp. and *Pinus* spp. plantations (IBA, 2022).

Although cases of deforestation for forest plantations have been previously reported (Araújo *et al.*, 2010; López-Poma *et al.*, 2020; Rezende *et al.*, 2022), their expansion nowadays is known to take place mainly on previously degraded areas (IBA, 2022). Therefore, it is not clear to which extent forest plantations can be contributing to deforestation in the country.

Chile has experienced an increase in the area with planted forest with *Eucalyptus* spp. and *Pinus* spp. (Schulz *et al.*, 2010). Nahuelhual *et al.* (2012) found that 41.5% of new forest plantations between 1975 and 1900 and 22.8% of new forest plantations between 1990 and 2007 were established by clearing secondary native forests. However, this scenario changed after forest certification was introduced in the country (Tricallotis *et al.*, 2018). Brazil and Chile could be considered as priorities for future assessments of schemes covering wood, but the deforestation risk associated with forest plantations for these countries, especially for recent years, deserves further investigation to support the high values reported in the dataset used in this study.

The procedure to target producer countries used in this study was based on the commodities' categories reported by Pendrill *et al.* (2020, 2022), which do not fully match the relevant commodities from the EUDR but were used as proxies. Therefore, results could vary if data for the specific commodities was used in this process. Priority countries could also vary for the several derived products covered by the EUDR.

The study conducted by Pérez (2022) can provide further insights on the applicability of the approach adopted in this study. The author applied the land balance model presented in Pendrill *et al.* (2019a) to estimate the deforestation risk associated with EU imports of four major FRCs between 2003 and 2020, namely cocoa, coffee, palm oil, and soya. The study assessed several products in the scope of the EUDR.

The main sources of deforestation risk for palm oil and soya where consistent between Pendrill *et al.* (2022), adopted in this study, and Pérez (2022). For Pérez (2022), Indonesia and Malaysia were the main producer countries linked to the deforestation risk associated with palm oil, palm kernel oil, and palm kernel cake. Furthermore, Brazil and Paraguay were the main producer countries linked to the deforestation risk for soybeans, soybean oil, and soybean cake.

On the other hand, results did not fully match for cocoa and coffee. For cocoa, some inconsistencies were observed across all products. Pérez (2022) found

that the deforestation risk associated with cocoa beans was mainly sourced from Côte d'Ivoire, Liberia, and Ghana. While the first two countries match the results from this study, deforestation risk linked to Ghana was not reported in Pendrill *et al.* (2022). Furthermore, Malaysia and Indonesia played prominent roles in the deforestation risk associated with cocoa butter, cocoa paste, and cocoa power and cake.

For green coffee, Pérez (2022) found that Tanzania, Indonesia, and Uganda were the main contributors to the deforestation risk imported by the EU. While these countries appeared in the top 5 for some of the years of analysis in this study, their contribution was not so significant when compared to Honduras. The different time scopes of the two studies could affect the results, but is unclear what other factors are contributing to the discrepancies between Pendrill *et al.* (2022) and Pérez *et al.* (2022) for cocoa and coffee. Therefore, the main producer countries can vary for some of the commodities depending on the dataset considered, including when more processed products are under consideration.

In general, a new estimation of the deforestation risk based on land balance models could be conducted specifically for the commodities and products covered by the EUDR for a more rigorous prioritization procedure. This new estimation could also include data from more recent years, since the datasets publicly available were limited to 2018, or 2017 in the case of wood products. However, the simplified procedure adopted in this study can provide reliable guidelines for selecting producer countries for future assessments of schemes. Complementing these results with other information sources, such as literature review and stakeholder consultation, is highly recommended, especially in the case of cocoa and coffee.

As a final (and a bit provocative) consideration, some reflections are needed with regard to the scope in terms of commodities and products. While there is no doubt that commodities included within the scope of the EUDR (and similar initiatives) are key FRCs, they are not the only existing FRCs. Deforestation and forest degradation are largely driven, for example, by mining activities (e.g., Giljum et al., 2022), therefore associated products should also be considered as possible FRCs and existing VSS and certification systems covering them should be taken into consideration. Similarly, there is robust evidence about the link between drug production (e.g., cocaine and cannabis) and deforestation in several areas around the globe and, in particular, in South America (e.g., UNODC, 2023). While deforestation driven by illicit drug production might be limited if compared to EUDR relevant commodities, indirect environmental and socioeconomic impacts associated to it are definitively not marginal. Of course, in this case there are no VSS to support the production of such illegal products. therefore deforestation should be tackled via a combination of command-andcontrol tools and soft ones, including VSS to promote the responsible production of alternative products within the same areas to provide farmers and local communities with alternative income opportunities.

5.3 Management implications

The selected schemes addressed, at least partially, most of the indicators from the framework. Yet operators must take certain factors into account when utilizing these schemes as supplementary resources for EUDR compliance assessment. For instance, operators should recognize gaps in schemes' requirements that pertain the provision of deforestation-free products in terms of the EUDR. Depending on the scheme, operators would have to investigate if forests other than natural forests, protected areas, HCV, and HCS have undergone deforestation or forest degradation to produce the relevant commodities.

Additionally, operators should also inquire whether instances of deforestation and forest degradation have taken place within the exemptions permitted by the schemes. Both cases would lead to non-compliance with the EUDR and, therefore, the relevant products derived from these commodities could not be placed in the EU market. While publicly accessible tools like the Global Forest Watch platform can aid operators in evaluating deforestation risks, they would not provide adequate evidence at the farm or MU level. Furthermore, operators would need to fill the gaps to address all relevant legislation as established by the EUDR.

Operators must also take careful note of the traceability system employed to oversee the relevant commodities. Assurance of production in alignment with schemes' social and environmental criteria is solely assured by systems wherein certified products remain separated from non-certified materials across the complete supply chain (e.g., SG and IP systems).

Systems that allow for the mixture of certified and non-certified products do not offer assistance to operators, as non-certified material is not subject to examination against social and environmental performance (e.g., MB and credit systems), and therefore can be associated with deforestation and noncompliance with legislation. This is applicable to cocoa products certified by Fairtrade and Rainforest Alliance, oil palm products certified by RSPO, and soya products certified by RTRS. An exception exists in the case of FSC, where Controlled Wood (CW) standards are adopted to prevent non-certified wood from unacceptable sources entering the supply chain. However, even in this scenario, operators would still be obliged to address the gaps highlighted in the previous paragraphs.

Another relevant consideration is that operators should examine whether NCs identified during audits are relevant for evaluating compliance with the EUDR, as certificates can sometimes be retained despite schemes' requirements not being met. This process could be facilitated for schemes providing public summaries of audit reports.

Some recommendations can also be directed towards the schemes assessed in this study, and these suggestions can be extended to schemes with comparable requirements and systems. Primarily, schemes aspiring to provide certified products that align with EUDR requirements should enhance their criteria pertaining to deforestation and forest degradation. Prohibiting the conversion of natural forests, protected areas, HCV, and HCS is insufficient for ensuring the delivery of deforestation-free products.

The exceptions permitted by the schemes that enable deforestation and forest degradation should also be attended to. Schemes should either revise their criteria or, at the very least, offer clear methods for operators to ascertain occurrences of deforestation and forest degradation.

Moreover, schemes would have to expand their requirements to cover all relevant legislation as defined by the EUDR. FSC has done this before as an adaptation to the EUTR, for example (see section 4.3.2). Schemes should assure that these requirements apply to both the production and the supply chain levels, since the latter presented weaker requirements for compliance with legislation. Schemes should also pay attention to fully extending these requirements to all subcontractors.

Furthermore, schemes should expand their requirements to encompass all relevant legislation outlined by the EUDR, as seen in the case of FSC's adaptation to the EUTR (refer to section 4.3.2). Schemes need to ensure these requirements are applicable to both production and supply chain tiers. Particularly, the supply chain standards have demonstrated weaker requirements for compliance with legislation. Additionally, schemes should be meticulous in fully extending these requirements to all subcontractors.

In terms of traceability, a significant challenge lies in furnishing geolocation data for the plots of land used to produce the relevant commodities, along with date or time range of production. Rainforest Alliance and RSPO have made some advancements (outlined in sections 4.3.3 and 4.3.4), but they are still distant from meeting the precise requirements of the EUDR. Conversely, other schemes have not addressed geolocation even partially. Robust systems would need to be implemented to fulfil this stipulation, which has proven to be a hurdle for voluntary initiatives focused on deforestation-free supply chains (Hinkes and Peter, 2020; zu Ermgassen *et al.*, 2020b, 2021). Schemes should also tackle the provenance of non-certified materials entering the supply chain. For most of the schemes, there's an evident risk that non-certified materials could be linked to deforestation and non-compliance with legislation.

In addition to EUDR stipulations, it is essential for schemes to maintain ongoing alignment between international and national standards, as well as among different scopes (e.g., less stringent requirements for small producers were identified, which could increase the risk of deforestation). Furthermore, schemes should reinforce their strategies for managing NCs to ensure that certified products entering the market are free from ties to deforestation, forest degradation, and legislative non-compliance. Lastly, schemes should enhance transparency by providing public summaries of audit reports encompassing both production and supply chain levels.

It is important to emphasize that these recommendations are proposed to enhance the support these schemes can offer operators in meeting the EUDR requirements for due diligence. However, compliance with the EUDR falls beyond the primary scope of these schemes. As such, they are not obligated and might not be inclined to adopt these suggestions. Conversely, it can be argued that preventing deforestation constitutes an essential facet of sustainable development (Barlow *et al.*, 2016; Bologna and Aquino, 2020; Stabile *et al.*, 2020). Thus, these recommendations retain relevance for the broader enhancement of sustainability systems.

Possible reflections might also be developed with regard to possible trade-offs associated with the implementation of EUDR requirements. Since assessed VSS do not fully cover – under the current form – EUDR requirements, it means that, unless standards are revised, operators will still need to take additional efforts and bear additional costs. This might induce some operators to invest on legally binding requirements (EUDR) rather than voluntary tools aiming to support sustainable development. Moreover, there may be trade-offs among standards (and therefore, associated products), companies and even countries. It might be assumed, indeed, that large companies have better/stronger supply chain control, vertical integration, management capacity, financial and technical resource, and contractual power to align with EUDR requirements and to ask suppliers to do so. On the other hand, smallholders and small companies might find troubles. VSS largely operating with smallholders, such as Fairtrade, might therefore suffer higher impacts and disadvantages from EUDR implementation in comparison to other initiatives. At the same time, countries lagging behind in the implementation of VSS might meet larger gaps when dealing with EUDR requirements thus finding themselves delayed in the compliance process. One possible consequence of these gaps is the development of dual markets ("better" products towards highly demanding markets, and "worse" products towards other markets) or even just the diverting of trade flows towards markets with less strict requirements.

5.4 Limitations and suggestions for future research

Past research offers a limited picture of the extent to which the HCV and HCS approaches can encompass the entire forest area (Maesano *et al.*, 2016; Austin *et al.*, 2017; Lang *et al.*, 2021). Additional studies are necessary to ascertain the portion of forests left unaddressed when schemes implement these approaches, particularly within tropical regions producing commodities covered by the EUDR. This information is important to inform operators on the concrete deforestation risk associated with these schemes.

Another pertinent concern revolves around the policies adopted by the schemes to handle violations of their standards. This holds particular significance in cases where valid certificates are associated with breaches of requirements relevant to the EUDR. Unfortunately, studies similar to those conducted by Halalisan *et al.* (2016), Buliga and Nichiforel (2019), and Trishkin *et al.* (2019) for FSC, as well as Bishop and Carlson (2022) for RSPO, are not available for a variety of schemes. While Garbely and Steiner (2022) recently examined NCs among 561 cocoa and coffee producers certified by Rainforest Alliance, the criteria pertinent to this study were not integrated into the analysis. Investigations focusing on NC patterns for other schemes could offer improved insights on the risk they encompass.

Despite the substantial alignment between the CW approach adopted by FSC and the indicators in Principle B, there is room for future studies to investigate the effectiveness of CW and analogous due diligence approaches, while contrasting them with more robust systems (Nathan *et al.*, 2018). Notably, Chris

and Lindenmayer (2021) identified vulnerabilities in the CW approach that resulted in the provision of wood from unacceptable sources. Therefore, indepth studies of CW's effectiveness could provide enhanced comprehension of its suitability for addressing EUDR requirements and offer guidance to other schemes interested in cleaning their supply chains. Another relevant aspect is that the level of risk associated with MB and similar traceability systems remains unclear. Future studies could provide empirical evidence on the extent to which conventional material used in these systems is linked to deforestation and non-compliance with legislation. Besides definitions for the inclusion/mixing of non-certified inputs within certified products, procedures and approaches to assess these inputs should also be considered and further investigated. For example, an interesting consideration that can be drawn from the CW procedures is that FSC has decided to develop national risk assessments rather than just relying on single organization's risk assessments. This was done to improve consistency and robustness of the system and possible costs for single CHs. There is a similarity with EUTR asking single operators to perform their own DDS independently, and EUDR which is still asking this, but also includes the fact that a risk assessment for countries will be performed by (or on behalf of) the EU.

The outcomes presented in this study are constrained to the schemes that were assessed. Future research could encompass additional schemes, thereby addressing gaps for cattle and natural rubber, which were not covered in this study. Furthermore, the process for selecting schemes could be refined to adopt a more stringent screening procedure. While this study focused solely on ISEAL community members, as explained in section 3.3, more relevant findings might be achieved by identifying schemes in priority producer countries, as elaborated in section 4.4. Subsequently, selecting these schemes based on how much of their production is destined to the EU market would establish a direct link between producers situated in regions with high deforestation risk and operators under the EUDR.

This study has also been limited to the use of secondary data from resources available online due to time and resources constraints. Therefore, the application of surveys, as presented in 3.1.3, could be pertinent for future research. Engaging individuals closely associated with the selected schemes could offer supplementary evidence to reinforce findings. These stakeholders could also be invited to provide comments and insights on preliminary findings, similar to the approach adopted by Greenpeace (2021a). Additionally, the application of surveys would open a window for better understanding how the schemes perceive their roles in the EUDR implementation, as well as exploring forthcoming advancements.

The propensity of certification and other third-party verified schemes to revise their requirements remains uncertain, given that compliance with the EUDR is beyond their ordinary scope. Previous experience shows that leading forest certification schemes adjusted their standards for harmonization with the EUTR (Dieguez and Sotirov, 2021). However, the reaction of schemes operating within the agricultural sector remains unclear.

Additionally, it remains uncertain whether operators managing FRCs covered by the EUDR will alter their sourcing strategies, and if this will involve prioritizing

the purchase of certified products. Further research is necessary to comprehend how these schemes can be effectively integrated within DDS, along with assessing their marginal benefits compared to alternative approaches. Moreover, it is relevant to exploring whether operators will gravitate toward more stringent VSS that exhibit greater alignment with the EUDR and fewer gaps, or if new VSS will emerge with this objective.

In recent years, the EU has expanded its regulatory framework (Kelemen *et al.*, 2010; Bradford, 2020; Poletti *et al.*, 2020), engaging with environmental issues that have historically been the domain of the private sector (Scherer and Palazzo, 2011; Jopke and Schoneveld, 2018; Schilling-Vacaflor and Lenschow, 2021). As governments take on expanded roles in environmental regulation, such as introducing new instruments to address embodied deforestation, the extent to which VSS will maintain their relevance remains uncertain. This opens a window for investigating the future influence of VSS in global supply chains and identify shifting trends in hybrid governance (Pirard *et al.*, 2023; van der Ven and Barmes, 2023).

6. Conclusions

This study introduces a novel assessment framework designed to evaluate the alignment of certification and other third-party verified schemes with the stipulations of the EUDR. This framework serves as a valuable instrument to ascertain the ability of such schemes to provide agricultural and forestry commodities that are deforestation-free and produced in accordance with relevant legislation in the country of production. Additionally, this study identifies the specific producer countries that should be prioritized in forthcoming assessments for each commodity encompassed by the EUDR.

By applying the framework to five schemes, this study sheds light on the main gaps that operators will have to address when using these schemes as sources of complementary information on the compliance of the EUDR. Firstly, the study highlights deficiencies related to the requirement for deforestation-free commodities. This discrepancy primarily stems from the fact that certain schemes lack comprehensive prohibitions against deforestation and forest degradation. This issue can be dissected into two primary aspects: a) schemes not encompassing all forest types, particularly focusing on natural forests, protected areas, HCV, and/or HCS forests, and b) schemes presenting exceptions that allow deforestation and forest degradation to occur, even if in small proportions.

The assessment of schemes also revealed multiple shortcomings in addressing the comprehensive list of relevant legislation stipulated by the EUDR. These gaps were particularly pronounced in standards tailored for supply chain entities in comparison to those for producers. Consequently, operators need to address these gaps when carrying out due diligence. Additionally, operators should closely consider the traceability system employed for managing relevant commodities. The use of MB and credit systems heightens the risk of noncompliance with the EUDR due to the lack of transparency regarding the origin of conventional materials introduced into the supply chain.

Moreover, the study highlighted that schemes often employ lenient approaches to address non-compliances (NCs), potentially resulting in labelled products in the market that do not accurately represent the desired social and environmental attributes. Consequently, operators need to further investigate the performance of parties verified by these schemes, with a particular concern of identifying NCs that contravene the EUDR requirements.

Although these schemes encompass a comprehensive framework for ensuring sustainable production of agricultural and forestry commodities, their effectiveness in fulfilling the specifications of the EUDR is limited in various respects. To enhance their suitability in support operators in fulfilling due diligence responsibilities, these schemes are encouraged to undertake measures to rectify the identified shortcomings. This will not only contribute to their alignment with EUDR requirements but also foster overall improvements within their sustainability systems.

Nonetheless, these schemes retain the potential to hold a pivotal role in facilitating the implementation of the EUDR. With their presence in high deforestation-risk regions and well-established assurance systems, these voluntary initiatives can provide on-the-ground, verified information through

periodic evaluations conducted by independent third parties. Achieving such a level of assessment independently would be considerably challenging for EUbased operators. As a result, these schemes could serve as valuable allies in the effective implementation of the EUDR. Finally, most of the schemes have public available databases and reporting systems that allow disclosure of relevant information making data monitoring and scrutiny possible for many stakeholders.

Operators have the option to integrate these VSS their DDS, but with the understanding that they do not serve as direct paths to achieve compliance with the EUDR. The DDS functions as a sequential procedure encompassing information collection, risk assessment, and, if applicable, risk mitigation. These schemes can offer valuable support at various junctures of this process. However, it is imperative that operators conscientiously address the gaps highlighted in this study to ensure a comprehensive approach that aligns with EUDR requisites.

From a more general perspective, wicked problems like deforestation and forest degradation are unlikely to be addressed via a single policy or regulation. The setting of an appropriate policy mix, encouraging direct or indirect cooperation between public and private actors, might represent the most effective – and possibly the most efficient – approach. In this perspective, a combination of command-and-control and voluntary tools might provide a proper ground for the development of public-private partnerships aiming to promote responsible forest management and conservation of the World's forests.

Quoted literature

- Abbasnezhad, B., Abrams, J. B. (2022). Testing the Applicability and Credibility of the High Conservation Value Forest (HCVF) Toolkit: A Systematic Global Review. Small-scale Forestry, 21(4), 531-551. https://doi.org/10.1007/s11842-022-09510-2
- Abdul Majid, N., Ramli, Z., Md Sum, S., Awang, A. H. (2021). Sustainable palm oil certification scheme frameworks and impacts: A systematic literature review. Sustainability, 13(6), 3263. https://doi.org/10.3390/su13063263
- Alves-Pinto, H. N., Newton, P., Pinto, L. F. G. (2015). Reducing deforestation and enhancing sustainability in commodity supply chains: interactions between governance interventions and cattle certification in Brazil. Tropical Conservation Science, 8(4), 1053-1079. https://doi.org/10.1177/194008291500800414
- Araujo, A. S. F., Silva, E. F. L., Nunes, L. A. P. L., Carneiro, R. F. V. (2010). The effect of converting tropical native savanna to Eucalyptus grandis forest on soil microbial biomass. Land degradation & development, 21(6), 540-545. https://doi.org/10.1002/ldr.993
- Areendran, G., Sahana, M., Raj, K., Kumar, R., Sivadas, A., Kumar, A., ... Gupta, V. D. (2020). A systematic review on high conservation value assessment (HCVs): Challenges and framework for future research on conservation strategy. Science of the Total Environment, 709, 135425. https://doi.org/10.1016/j.scitotenv.2019.135425
- Armenteras, D., Espelta, J. M., Rodríguez, N., Retana, J. (2017). Deforestation dynamics and drivers in different forest types in Latin America: Three decades of studies (1980–2010). Global Environmental Change, 46, 139–147. https://doi.org/10.1016/J.GLOENVCHA.2017.09.002
- Auld, G., Gulbrandsen, L. H., McDermott, C. L. (2008). Certification schemes and the impacts on forests and forestry. Annual Review of Environment and Resources, 33, 187–211. https://doi.org/10.1146/ANNUREV.ENVIRON.33.013007.103754
- Austin, K. G., Lee, M. E., Clark, C., Forester, B. R., Urban, D. L., White, L., ... Poulsen, J. R. (2017). An assessment of high carbon stock and high conservation value approaches to sustainable oil palm cultivation in Gabon. Environmental Research Letters, 12(1), 014005. https://doi.org/10.1088/1748-9326/aa5437
- Azevedo, A. A., Rajão, R., Costa, M. A., Stabile, M. C., Macedo, M. N., Dos Reis, T. N., ... Pacheco, R. (2017). Limits of Brazil's Forest Code as a means to end illegal deforestation. Proceedings of the National Academy of Sciences, 114(29), 7653-7658. https://doi.org/10.1073/pnas.1604768114
- Azevedo, T., Shimbo, J., Rosa, M., Lupinetti, A., Marques, D.D.L., Timmers, J. (2022). Potential impacts of due diligence criteria on the protection of

threatened South American non-forest natural ecosystems. MapBiomas Technical Note. Available at: https://staging-brasil.mapbiomas.org/wp-content/uploads/sites/4/2023/08/Nota_Tecnica_UE_07.07.2022.pdf (accessed on September 8th, 2023)

- Bager, S. L., Lambin, E. F. (2022). How do companies implement their zerodeforestation commitments. Journal of Cleaner Production, 375, 134056. https://doi.org/10.1016/j.jclepro.2022.134056
- Bager, S. L., Persson, U. M., Reis, T. N. (2021). Eighty-six EU policy options for reducing imported deforestation. One Earth, 4(2), 289–306. https://doi.org/https://doi.org/10.1016/j.oneear.2021.01.011
- Barima, Y. S. S., Kouakou, A. T. M., Bamba, I., Sangne, Y. C., Godron, M., Andrieu, J., Bogaert, J. (2016). Cocoa crops are destroying the forest reserves of the classified forest of Haut-Sassandra (Ivory Coast). Global Ecology and Conservation, 8, 85-98. https://doi.org/10.1016/j.gecco.2016.08.009
- Barlow, J., Gardner, T. A., Araujo, I. S., Ávila-Pires, T. C., Bonaldo, A. B., Costa, J. E., ... Peres, C. A. (2007). Quantifying the biodiversity value of tropical primary, secondary, and plantation forests. Proceedings of the National Academy of Sciences, 104(47), 18555-18560. https://doi.org/10.1073/pnas.0703333104
- Barlow, J., Lennox, G. D., Ferreira, J., Berenguer, E., Lees, A. C., Nally, R. M., ... Gardner, T. A. (2016). Anthropogenic disturbance in tropical forests can double biodiversity loss from deforestation. Nature, 535(7610), 144-147. https://doi.org/10.1038/nature18326
- Bartley, T. (2003). Certifying Forests and Factories: States, Social Movements, and the Rise of Private Regulation in the Apparel and Forest Products Fields. Politics & Society, 31(3), 433–464. https://doi.org/10.1177/0032329203254863
- Barton, D. N., Ring, I., Rusch, G. M. (2017). Policy Mixes: Aligning instruments for biodiversity conservation and ecosystem service provision. Environmental Policy and Governance, 27(5), 397–403. https://doi.org/10.1002/EET.1779
- Berning, L., Sotirov, M. (2023). Hardening corporate accountability in commodity supply chains under the European Union Deforestation Regulation. Regulation & Governance. https://doi.org/10.1111/REGO.12540
- Bishop, K. J., Carlson, K. M. (2022). The role of third-party audits in ensuring producer compliance with the Roundtable on Sustainable Palm Oil (RSPO) certification system. Environmental Research Letters, 17(9), 094038. https://doi.org/10.1088/1748-9326/ac8b96
- Blackman, A., Goff, L., Rivera Planter, M. (2018). Does eco-certification stem tropical deforestation? Forest Stewardship Council certification in Mexico. Journal of Environmental Economics and Management, 89, 306–333. https://doi.org/10.1016/J.JEEM.2018.04.005

- Blackman, A., Rivera, J. (2011). Producer-Level Benefits of Sustainability Certification. Conservation Biology, 25(6), 1176–1185. https://www.jstor.org/stable/41315415
- Blankenbach, J. (2020). Voluntary Sustainability Standards and the Sustainable Development Goals. In: Negi, A., Pérez-Pineda, J. A., Blankenbach, J. (eds.). Sustainability Standards and Global Governance: Experiences of Emerging Economies. Springer, 19-38. https://doi.org/10.1007/978-981-15-3473-7
- Bologna, M., Aquino, G. (2020). Deforestation and world population sustainability: a quantitative analysis. Scientific reports, 10(1), 7631. https://doi.org/10.1038/s41598-020-63657-6
- Börner, J., Schulz, D., Wunder, S., Pfaff, A. (2020). The effectiveness of forest conservation policies and programs. Annual Review of Resource Economics, 12, 45-64. https://doi.org/10.1146/annurev-resource-110119-025703
- Bradford, A. (2020). The Brussels effect: How the European Union rules the world. New York, Oxford University Press. https://doi.org/10.1093/oso/9780190088583.001.0001
- Brancalion, P. H., Garcia, L. C., Loyola, R., Rodrigues, R. R., Pillar, V. D., Lewinsohn, T. M. (2016). A critical analysis of the Native Vegetation Protection Law of Brazil (2012): updates and ongoing initiatives. Natureza & Conservação, 14, 1-15. https://doi.org/10.1016/j.ncon.2016.03.003
- Bremer, L. L., Farley, K. A. (2010). Does plantation forestry restore biodiversity or create green deserts? A synthesis of the effects of land-use transitions on plant species richness. Biodiversity and Conservation, 19, 3893-3915. https://doi.org/10.1007/s10531-010-9936-4
- Brockerhoff, E. G., Barbaro, L., Castagneyrol, B., Forrester, D. I., Gardiner, B., González-Olabarria, J. R., ... Jactel, H. (2017). Forest biodiversity, ecosystem functioning and the provision of ecosystem services. Biodiversity and Conservation, 26, 3005-3035. https://doi.org/10.1007/s10531-017-1453-2
- Brown, S., Zarin, D. (2013). What Does Zero Deforestation Mean? Science, 342(6160), 805–807. https://doi.org/10.1126/SCIENCE.1241277
- Buliga, B., Nichiforel, L. (2019). Voluntary forest certification vs. stringent legal frameworks: Romania as a case study. Journal of Cleaner Production, 207, 329-342. https://doi.org/10.1016/j.jclepro.2018.10.021
- Burley, H., Thomson, E. (2021). A climate wake-up: but business failing to hear the alarm on deforestation. Available at: https://forest500.org/sites/default/files/forest500_2022report_final.pdf (accessed on September 8th, 2023)
- Busch, J., Ferretti-Gallon, K. (2017). What Drives Deforestation and What Stops It? A meta-analysis of spatially explicit econometric studies. Review of

Environmental Economics and Policy, 11(1), 3–23. https://doi.org/10.1093/REEP/REW013

- Camara, G., Simoes, R., Ruivo, H. M., Andrade, P. R., Soterroni, A. C., Ramos, F. M., ... Adami, M. (2023). Impact of land tenure on deforestation control and forest restoration in Brazilian Amazonia. Environmental Research Letters, 18(6), 065005. https://doi.org/10.1088/1748-9326/acd20a
- Cannon, J. Charcoal and cattle ranching tearing apart the Gran Chaco. Mongabay Series: Global Forest Reporting Network. Available at: https://news.mongabay.com/2017/07/charcoal-and-cattle-tearing-apartthe-gran-chaco/ (accessed on September 8th, 2023)
- CAOBISCO, FEDIOL, IMACE, EPOA, RSPO, BASP, ... Unipalma. (2022). Joint Statement of Palm Oil Sector Organisations on the Proposal for a Regulation on Deforestation-free Products. Available at: https://www.fediol.eu/data/ESPOAG%20joint%20statement%2018%20M ay%202022_final.pdf (accessed on September 8th, 2023)
- Capuzzi, B. (2023). Is the European Union Deforestation Regulation WTO-Proof? The Context of EU's Green Agenda and an Exercise of WTO Compatibility. SSRN Electronic Journal. https://doi.org/10.2139/SSRN.4443139
- Carlson, K. M., Heilmayr, R., Gibbs, H. K., Noojipady, P., Burns, D. N., Morton, D. C., ... Kremen, C. (2018). Effect of oil palm sustainability certification on deforestation and fire in Indonesia. Proceedings of the National Academy of Sciences of the United States of America, 115(1), 121–126. https://doi.org/10.1073/pnas.1704728114
- Carodenuto, S., Buluran, M. (2021). The effect of supply chain position on zerodeforestation commitments: evidence from the cocoa industry. Journal of Environmental Policy & Planning, 23(6), 716-731. https://doi.org/10.1080/1523908X.2021.1910020
- Carvalho, R., Rausch, L., Munger, J., Gibbs, H. K. (2021). The role of highvolume ranches as cattle suppliers: Supply chain connections and cattle production in Mato Grosso. Land, 10(10), 1098. https://doi.org/10.3390/land10101098
- Cashore, B. (2002). Legitimacy and the Privatization of Environmental Governance: How Non–State Market–Driven (NSMD) Governance Systems Gain Rule–Making Authority. Governance, 15(4), 503–529. https://doi.org/10.1111/1468-0491.00199
- Castro-Nunez, A. C., Villarino, M. E. J., Bax, V., Ganzenmüller, R., Francesconi, W. (2021). roadening the Perspective of Zero-Deforestation Interventions in Peru by Incorporating Concepts from the Global Value Chain Literature. Sustainability, 13, 12138. https://doi.org/10.3390/su132112138
- CDP, AFi. (2022). From commitments to action at scale: critical steps to achieve deforestation-free supply chains. Available at:

https://www.cdp.net/en/research/global-reports/global-forests-report-2021 (accessed on September 8th, 2023)

- ClientEarth (2022a). Getting to "deforestation-free": clarifying the traceability requirements in the proposed EU deforestation regulation. Available at: https://www.clientearth.org/latest/documents/getting-to-deforestation-free-clarifying-the-traceability-requirements-in-the-proposed-eu-deforestation-regulation/ (accessed on September 8th, 2023)
- ClientEarth (2022b). The UK Environment Act what's happening now? Available at: https://www.clientearth.org/latest/latest-updates/news/whythe-uk-environment-bill-matters/ (accessed on September 8th, 2023)
- ClientEarth. (2021). The proposed EU law on deforestation-free products. What is in the European Commission's proposal and what is left out? https://doi.org/10.1016/j.gloenvcha.2019.03.002
- COCERAL, FEDIOL, FEFAC. (2022). Joint Position on the Commission Proposal for a Regulation for Deforestation-free Supply Chains. Available at: https://fefac.eu/wp-content/uploads/2022/02/22_PR_5.pdf (accessed on September 8th, 2023)
- Consumer Goods Forum (2023). Collaborating For Action 2022 Review. Available at: https://www.theconsumergoodsforum.com/wpcontent/uploads/2023/01/2022-CGF-Annual-Report.pdf (accessed on September 8th, 2023)
- Curtis, J. R., Robinson, W. D., Rompré, G., Moore, R. P., McCune, B. (2021). Erosion of tropical bird diversity over a century is influenced by abundance, diet and subtle climatic tolerances. Scientific Reports, 11(1), 10045. https://doi.org/10.1038/s41598-021-89496-7
- Curtis, P. G., Slay, C. M., Harris, N. L., Tyukavina, A., Hansen, M. C. (2018). Classifying drivers of global forest loss. Science, 361(6407), 1108–1111. https://doi.org/10.1126/science.aau3445
- Cuypers, D., Geerken, T., Gorissen, L., Lust, A., Peters, G., Karstensen, J., ... Van Westhuizen, H. (2013). The impact of EU consumption on deforestation: Comprehensive analysis of the impact of EU consumption on deforestation. Available at: https://pure.iiasa.ac.at/id/eprint/14868/1/1.%20Report%20analysis%20of %20impact.pdf (accessed on September 8th, 2023)
- d'Albertas, F., Ruggiero, P., Pinto, L. F. G., Sparovek, G., Metzger, J. P. (2023). Agricultural certification as a complementary tool for environmental law compliance. Biological Conservation, 277, 109847. https://doi.org/10.1016/J.BIOCON.2022.109847
- D'Odorico, P., Bhattachan, A., Davis, K. F., Ravi, S., Runyan, C. W. (2013). Global desertification: Drivers and feedbacks. Advances in Water Resources, 51, 326-344. https://doi.org/10.1016/j.advwatres.2012.01.013
- da Silva, R. F. B., Moran, E. F., Millington, J. D., Viña, A., Liu, J. (2023). Complex relationships between soybean trade destination and tropical

deforestation. Scientific Reports, 13(1), 11254. https://doi.org/10.1038/s41598-023-38405-1

- De Filippi, P., Mannan, M., Reijers, W. (2022). The alegality of blockchain technology. Policy and Society, 41(3), 358-372. https://doi.org/10.1093/polsoc/puac006
- Defries, R. S., Fanzo, J., Mondal, P., Remans, R., Wood, S. A. (2017). Is voluntary certification of tropical agricultural commodities achieving sustainability goals for small-scale producers? A review of the evidence. Environmental Research Letters, 12(3), 033001. https://doi.org/10.1088/1748-9326/AA625E
- Demestichas, K., Peppes, N., Alexakis, T., Adamopoulou, E. (2020). Blockchain in agriculture traceability systems: A review. Applied Sciences, 10(12), 4113. http://dx.doi.org/10.3390/app10124113
- Dermawan, A., Hospes, O., Termeer, C. J. A. M. (2022). Between zerodeforestation and zero-tolerance from the state: Navigating strategies of palm oil companies of Indonesia. Forest Policy and Economics, 136, 102690. https://doi.org/10.1016/j.forpol.2022.102690
- DeValue, K., Takahashi, N., Woolnough, T., Merle, C., Fortuna, S., Agostini, A. (2022). Halting deforestation from agricultural value chains: the role of governments. Rome, FAO. https://doi.org/10.4060/cc2262en
- Di Girolami, E., Kampen, J., Arts, B. (2023). Two systematic literature reviews of scientific research on the environmental impacts of forest certifications and community forest management at a global scale. Forest Policy and Economics, 146, 102864. https://doi.org/10.1016/j.forpol.2022.102864
- Dieguez, L., Sotirov, M. (2021). FSC sustainability certification as green-lane for legality verification under the EUTR? Changes and policy learning at the interplay of private governance and public policy. Forest Policy and Economics, 131, 102568. https://doi.org/10.1016/j.forpol.2021.102568
- Dietz, T., Grabs, J., Chong, A. E. (2021). Mainstreamed voluntary sustainability standards and their effectiveness: Evidence from the Honduran coffee sector. Regulation & Governance, 15(2), 333–355. https://doi.org/10.1111/REGO.12239
- Ducatez, S., Shine, R. (2017). Drivers of extinction risk in terrestrial vertebrates. Conservation Letters, 10(2), 186-194. https://doi.org/10.1111/conl.12258
- Dummett, C., Blundell, A., Canby, K., Wolosin, M., Bodnar, E. (2021). Illicit Harvest, Complicit Goods: The State of Illegal Deforestation for Agriculture. Forest Policy Trade and Finance Initiative Report. Available at: https://www.forest-trends.org/publications/illicit-harvest-complicitgoods/ (accessed on September 8th, 2023)
- Durán, G., Scott, J. (2022). Regulating trade in forest-risk commodities: two cheers for the European Union. Journal of Environmental Law, 34(2), 245-267. https://doi.org/10.1093/jel/eqac002

- Echeverri, A., Furumo, P. R., Moss, S., Kuthy, A. G. F., Aguirre, D. G., Mandle, L., ... Lambin, E. F. (2023). Colombian biodiversity is governed by a rich and diverse policy mix. Nature Ecology & Evolution 2023 7:3, 7(3), 382– 392. https://doi.org/10.1038/s41559-023-01983-4
- Edwards, D. P., Fisher, B., Wilcove, D. S. (2012). High Conservation Value or high confusion value? Sustainable agriculture and biodiversity conservation in the tropics. Conservation Letters, 5(1), 20-27. https://doi.org/10.1111/j.1755-263X.2011.00209.x
- Ekadinata, A., Vincent, G. (2011). Rubber agroforests in a changing landscape: analysis of land use/cover trajectories in Bungo district, Indonesia. Forests, Trees and Livelihoods, 20(1), 3-14. https://doi.org/10.1080/14728028.2011.9756694
- Elkington, J. (2006). Governance for Sustainability. Corporate Governance: An International Review, 14(6), 522–529. https://doi.org/10.1111/J.1467-8683.2006.00527.X
- Ellis, K., Weatherer, L. (2022). Corporate Implementation, Impacts, and Reporting on No-Deforestation & "Nature Positive" Post 2020. Available at: https://www.forest-trends.org/publications/corporate-implementationimpacts-and-reporting/ (accessed on September 8th, 2023)
- Engel, S., Pagiola, S., Wunder, S. (2008). Designing payments for environmental services in theory and practice: An overview of the issues. Ecological Economics, 65(4), 663–674. https://doi.org/10.1016/J.ECOLECON.2008.03.011
- EuroCommerce (2022). Retail and wholesale: supporting an EU market for deforestation-free products. Available at: https://www.eurocommerce.eu/app/uploads/2022/04/2022.07.01-EuroCommerce-Postion-on-Deforestation.pdf (accessed on September 8th, 2023)
- European Coffee Federation (2022). An alternative approach to ensure forest protection. Available at: https://www.ecf-coffee.org/wpcontent/uploads/2022/05/1.-Final_ECF-Alternative-approach.pdf (accessed on September 8th, 2023).
- European Commission (2003). Communication from the Commission to the Council and the European Parliament - Forest Law Enforcement, Governance and Trade (FLEGT) - Proposal for an EU Action Plan. Available at: https://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=CELEX%3A52003DC0251 (accessed on September 8th, 2023)
- European Commission (2010). Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market. Available at: https://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=CELEX:32010R0995 (accessed on September 8th, 2023)

- European Commission (2018a). Feasibility study on options to step up EU action against deforestation: Inventory of existing EU policies, legislation and initiatives addressing the drivers of deforestation and forest degradation: final report. https://data.europa.eu/doi/10.2779/723328
- European Commission (2018b). Feasibility study on options to step up EU action against deforestation: Inventory of existing EU policies, legislation and initiatives addressing the drivers of deforestation and forest degradation: final report. https://doi.org/https://data.europa.eu/doi/10.2779/723328
- European Commission (2018c). Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources. Available at: https://eur-lex.europa.eu/legal-

content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0082.01.ENG&toc=OJ:L :2018:328:TOC (accessed on September 8th, 2023)

- European Commission (2019). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Stepping up EU Action to Protect and Restore the World's Forests. Available at: https://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=CELEX%3A52019DC0352 (accessed on September 8th, 2023)
- European Commission (2021a). Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the making available on the Union market as well as export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010. Available at: https://eur-lex.europa.eu/legal-

content/EN/TXT/?uri=celex%3A52021PC0706 (accessed on September 8th, 2023)

- COMMISSION STAFF WORKING European Commission (2021b). DOCUMENT IMPACT ASSESSMENT minimising the risk of deforestation and forest degradation associated with products placed on the EU market. Available at: https://eur-lex.europa.eu/legalcontent/EN/ALL/?uri=CELEX%3A52021SC0326 (accessed on September 8th, 2023)
- Commission (2021c). COMMISSION STAFF WORKING European DOCUMENT FITNESS CHECK on Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market (the EU Timber Regulation) and on Regulation (EC) No 2173/2005 of 20 December 2005 on the establishment of a FLEGT licensing scheme for imports of timber into the European Community Regulation). Available https://eur-lex.europa.eu/legal-(FLEGT at: content/EN/ALL/?uri=SWD:2021:328:FIN (accessed on September 8th, 2023)

European Commission (2023a). Regulation (EU) 2023/1115 of the European Parliament and of the Council of 31 May 2023 on the making available on the Union market and the export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010. Available at: https://eur-lex.europa.eu/legal-

content/EN/TXT/?uri=CELEX%3A32023R1115&qid=1688594681039 (accessed on September 8th, 2023)

- European Commission (2023b). Voluntary schemes. Available at: https://energy.ec.europa.eu/topics/renewableenergy/bioenergy/voluntary-schemes_en#voluntary-schemes-under-therevised-renewable-energy-directive (accessed on September 8th, 2023)
- Fairtrade (2021). Monitoring the scope and benefits of Fairtrade. Monitoring Report 14th Edition. Available at: https://www.fairtrade.net/library/monitoring-the-scope-and-benefits-offairtrade-14th-edition (accessed on September 8th, 2023)
- Fairtrade (2022). A just transition for cocoa and coffee smallholders to access a deforestation-free and forest degradation-free European market. Available at: https://files.fairtrade.net/publications/Fairtrade_position_and_recommend ations_deforestation_regulation.pdf (accessed on September 8th, 2023)
- FAO (2020a). Global Forest Resources Assessment 2020: Main report. Rome. https://doi.org/10.4060/ca9825en
- FAO (2020b). Global Forest Resources Assessment 2020: Terms and Definitions. Available at: https://www.fao.org/3/I8661EN/i8661en.pdf (accessed on September 8th, 2023)
- FAO, UNEP (2020). The State of the World's Forests 2020. Forests, biodiversity and people. Rome. https://doi.org/10.4060/ca8642en
- FAO. (2020c). FRA 2020 Remote Sensing Survey. FAO Forestry Paper No. 186. https://doi.org/https://doi.org/10.4060/cb9970en
- Farmer, M., Svales, V., Jongeneel, R., Karaczun, Z., Müssner, R., Leipprand, A... Simó, A. (2007). Exploring the synergies between cross compliance and certification schemes. Available at: https://library.wur.nl/WebQuery/wurpubs/fulltext/29693 (accessed on September 8th, 2023)
- Fehlenberg, V., Baumann, M., Gasparri, N. I., Piquer-Rodriguez, M., Gavier-Pizarro, G., Kuemmerle, T. (2017). The role of soybean production as an underlying driver of deforestation in the South American Chaco. Global environmental change, 45, 24-34. https://doi.org/10.1016/j.gloenvcha.2017.05.001
- Ferré, C., Comolli, R., Leip, A., Seufert, G. (2014). Forest conversion to poplar plantation in a Lombardy floodplain (Italy): effects on soil organic carbon stock. Biogeosciences, 11(22), 6483-6493. https://doi.org/10.5194/bg-11-6483-2014

- Fischer, R., Lippe, M., Dolom, P., Kalaba, F. K., Tamayo, F., Torres, B. (2023). Effectiveness of policy instrument mixes for forest conservation in the tropics–Stakeholder perceptions from Ecuador, the Philippines and Zambia. Land Use Policy, 127, 106546. https://doi.org/10.1016/j.landusepol.2023.106546
- Franco-Solís, A., Montanía, C. V. (2021). Dynamics of deforestation worldwide: A structural decomposition analysis of agricultural land use in South America. Land Use Policy, 109, 105619. https://doi.org/10.1016/j.landusepol.2021.105619
- FSC (2022). FSC welcomes the new EU Regulation on deforestation-free products – and is ready to work for effective enforcement on the ground. Available at: https://fsc.org/en/newscentre/fsc-welcomes-the-new-eu-antideforestation-regulation (accessed on September 8th, 2023)
- FSC (2023a). FSC Principles and Criteria for Forest Stewardship. FSC-STD-01-001 V5-3. Available at: https://connect.fsc.org/documentcentre/documents/resource/392 (accessed on September 8th, 2023)
- FSC (2023b). The EUDR is a reality. FSC is committed to making it a success. Available at: https://fsc.org/en/newscentre/general-news/the-eudr-is-areality (accessed on September 8th, 2023)
- FSC Adria-Balkan Region (2022a). FSC in Bosnia and Herzegovina. Available at: https://adria-balkan.fsc.org/en/fsc-in-the-adria-balkan-region/bih (accessed on September 8th, 2023)
- FSC Adria-Balkan Region (2022b). FSC in Croatia. Available at: https://adriabalkan.fsc.org/en/fsc-in-the-adria-balkan-region/cro (accessed on September 8th, 2023)
- FSC Adria-Balkan Region (2022c). https://adria-balkan.fsc.org/en/fsc-in-theadria-balkan-region/srb. Available at: https://adria-balkan.fsc.org/en/fscin-the-adria-balkan-region/srb (accessed on September 8th, 2023)
- FSC Adria-Balkan Region (2022d). FSC in Slovenia. Available at: https://adriabalkan.fsc.org/en/fsc-in-the-adria-balkan-region/slo (accessed on September 8th, 2023)
- Furumo, P. R., Lambin, E. F. (2021). Policy sequencing to reduce tropical deforestation. Global Sustainability, 4, e24. https://doi.org/10.1017/SUS.2021.21
- Garbely, A., Steiner, E. (2022). Understanding compliance with voluntary sustainability standards: a machine learning approach. Environment, Development and Sustainability, 1-31. https://doi.org/10.1007/s10668-022-02524-y
- Garrett, R. D., Carlson, K. M., Rueda, X., Noojipady, P. (2016). Assessing the potential additionality of certification by the Round Table on Responsible Soybeans and the Roundtable on Sustainable Palm Oil. Environmental Research Letters, 11(4), 045003. https://doi.org/10.1088/1748-9326/11/4/045003

- Garrett, R. D., Levy, S. A., Gollnow, F., Hodel, L., Rueda, X. (2021). Have food supply chain policies improved forest conservation and rural livelihoods? A systematic review. Environmental Research Letters, 16(3), 033002. https://doi.org/10.1088/1748-9326/ABE0ED
- Gatti, R. C., Liang, J., Velichevskaya, A., Zhou, M. (2019). Sustainable palm oil may not be so sustainable. Science of The Total Environment, 652, 48– 51. https://doi.org/10.1016/J.SCITOTENV.2018.10.222
- Gavrilut, I., Halalisan, A. F., Giurca, A., Sotirov, M. (2015). The interaction between FSC certification and the implementation of the EU timber regulation in Romania. Forests, 7(1), 3. https://doi.org/10.3390/F7010003
- Gebara, M. F., Sills, E., May, P., Forsyth, T. (2019). Deconstructing the policyscape for reducing deforestation in the Eastern Amazon: Practical insights for a landscape approach. Environmental Policy and Governance, 29(3), 185-197. https://doi.org/10.1002/eet.1846
- Geist, H. J., Lambin, E. F. (2002). Proximate Causes and Underlying Driving Forces of Tropical Deforestation: Tropical forests are disappearing as the result of many pressures, both local and regional, acting in various combinations in different geographical locations. BioScience, 52(2), 143– 150. https://doi.org/https://doi.org/10.1641/0006-3568(2002)052[0143:PCAUDF]2.0.CO;2
- Gent, D., Petykowski, E., McCoshan, K. (2022). Assessing the G7's international deforestation footprint and measures to tackle it. Available at: https://www.foodandlandusecoalition.org/wp-content/uploads/2022/09/Assessing-the-G7s-international-deforestation-footprint-and-measures-to-tackle-it.pdf (accessed on September 8th, 2023)
- German, L., Schoneveld, G. (2012). A review of social sustainability considerations among EU-approved voluntary schemes for biofuels, with implications for rural livelihoods. Energy Policy, 51, 765–778. https://doi.org/10.1016/J.ENPOL.2012.09.022
- Giam, X. (2017). Global biodiversity loss from tropical deforestation. Proceedings of the National Academy of Sciences, 114(23), 5775-5777. https://doi.org/10.1073/pnas.1706264114
- Giljum, S., Maus, V., Kuschnig, N., Luckeneder, S., Tost, M., Sonter, L. J., Bebbington, A. J. (2022). A pantropical assessment of deforestation caused by industrial mining. Proceedings of the National Academy of Sciences, 119(38), e2118273119. https://doi.org/10.1073/pnas.2118273119
- Global Canopy (2022). Forest 500: Financial Institution Selection Methodology 2022. Available at: https://forest500.org/sites/default/files/forest_500_financial_institution_sel ection_methodology_2022.pdf (accessed on September 8th, 2023)
- Godar, J., Persson, U. M., Tizado, E. J., Meyfroidt, P. (2015). Towards more accurate and policy relevant footprint analyses: Tracing fine-scale socio-

environmental impacts of production to consumption. Ecological Economics, 112, 25–35. https://doi.org/10.1016/J.ECOLECON.2015.02.003

- Goldman, E., Weisse, M. J., Harris, N., Schneider, M. (2020). Estimating the Role of Seven Commodities in Agriculture-Linked Deforestation: Oil Palm, Soy, Cattle, Wood Fiber, Cocoa, Cofee, and Rubber. Technical Note. Available at: https://www.wri.org/research/estimating-role-sevencommodities-agriculture-linked-deforestation-oil-palm-soy-cattle (accessed on September 8th, 2023)
- Gollnow, F., Cammelli, F., Carlson, K. M., Garrett, R. D. (2022). Gaps in adoption and implementation limit the current and potential effectiveness of zero-deforestation supply chain policies for soy. Environmental Research Letters, 17(11), 114003. https://doi.org/10.1088/1748-9326/ac97f6
- Grabs, J., Cammelli, F., Levy, S. A., Garrett, R. D. (2021). Designing effective and equitable zero-deforestation supply chain policies. Global Environmental Change, 70, 102357. https://doi.org/10.1016/J.GLOENVCHA.2021.102357
- Greenpeace (2021a). Briefing: EU anti-deforestation law could have serious holes - Greenpeace European Unit. Available at: https://www.greenpeace.org/eu-unit/issues/nature-food/45908/briefingeu-anti-deforestation-law-could-have-serious-holes/ (accessed on September 8th, 2023)
- Greenpeace (2021b). Destruction: Certified. Greenpeace International. Available at: https://www.greenpeace.org/international/publication/46812/destructioncertified/ (accessed on September 8th, 2023)
- GRSB (2017). GRSB Principles and Criteria for Defining Global Sustainable Beef. Available at: https://wa.grsbeef.org/resources/Documents/Principles%20and%20Criter ia/GRSB_Principles_F.pdf (accessed on September 8th, 2023)
- Guillaume, T., Kotowska, M. M., Hertel, D., Knohl, A., Krashevska, V., Murtilaksono, K., ... Kuzyakov, Y. (2018). Carbon costs and benefits of Indonesian rainforest conversion to plantations. Nature communications, 9(1), 2388. https://doi.org/10.1038/s41467-018-04755-y
- Gulbrandsen, L. H. (2004). Overlapping Public and Private Governance: Can Forest Certification Fill the Gaps in the Global Forest Regime? Global Environmental Politics, 4(2), 75–99. https://doi.org/10.1162/152638004323074200
- Halalisan, A. F., Ioras, F., Korjus, H., Avdibegovic, M., Maric, B., Malovrh, S. P., Abrudan, I. V. (2016). An analysis of forest management nonconformities to FSC standards in different European countries. Notulae Botanicae Horti Agrobotanici Cluj-Napoca, 44(2), 634-639. http://dx.doi.org/10.15835/nbha44210263
- Hansen, M. C., Potapov, P. V., Moore, R., Hancher, M., Turubanova, S. A., Tyukavina, A., ... Townshend, J. R. G. (2013). High-resolution global maps of 21st-century forest cover change. Science, 342(6160), 850–853. https://doi.org/10.1126/science.1244693
- Hasan, S., Zhen, L., Miah, M.G., Ahamed, T. Samie, A. (2020). Impact of land use change on ecosystem services: A review. Environmental Development, 34: 100527. https://doi.org/10.1016/j.envdev.2020.100527
- Haywood, C., Henriot, C. (2019). Protecting Forests From Conversion: The Essential Role of Supply-Side National Laws. Frontiers in Forests and Global Change, 2, 443064. https://doi.org/10.3389/FFGC.2019.00035/BIBTEX
- He, Z., Turner, P. (2022). Blockchain applications in forestry: A systematic literature review. Applied Sciences, 12(8), 3723. https://doi.org/10.3390/app12083723
- Heflich, A. (2020). An EU legal framework to halt and reverse EU-driven global deforestation: European added value assessment. Available at: https://www.europarl.europa.eu/thinktank/en/document/EPRS_STU(2020)654174 (accessed on September 8th, 2023)
- Heilmayr, R., Carlson, K. M., Benedict, J. J. (2020). Deforestation spillovers from oil palm sustainability certification. Environmental Research Letters, 15(7), 075002. https://doi.org/10.1088/1748-9326/ab7f0c
- Heilmayr, R., Lambin, E. F. (2016). Impacts of nonstate, market-driven governance on Chilean forests. Proceedings of the National Academy of Sciences of the United States of America, 113(11), 2910–2915. https://doi.org/10.1073/pnas.1600394113
- Heilmayr, R., Rausch, L. L., Munger, J., Gibbs, H. K. (2020). Brazil's Amazon soy moratorium reduced deforestation. Nature Food, 1(12), 801-810. https://doi.org/10.1038/s43016-020-00194-5
- Henders, S., Persson, U. M., Kastner, T. (2015). Trading forests: land-use change and carbon emissions embodied in production and exports of forest-risk commodities. Environmental Research Letters, 10(12), 125012. https://doi.org/10.1088/1748-9326/10/12/125012
- Hinkes, C. (2020). Adding (bio) fuel to the fire: discourses on palm oil sustainability in the context of European policy development. Environment, Development and Sustainability, 22(8), 7661-7682. https://doi.org/10.1007/s10668-019-00541-y
- Hinkes, C., Peter, G. (2020). Traceability matters: A conceptual framework for deforestation-free supply chains applied to soy certification. Sustainability Accounting, Management and Policy Journal, 11(7), 1159-1187. https://doi.org/10.1108/SAMPJ-04-2019-0145
- Hinkes, C., Peter, G. (2020). Traceability matters: A conceptual framework for deforestation-free supply chains applied to soy certification. Sustainability Accounting, Management and Policy Journal, 11(7), 1159-1187. http://dx.doi.org/10.1108/SAMPJ-04-2019-0145

- Hoang, N. T., Kanemoto, K. (2021). Mapping the deforestation footprint of nations reveals growing threat to tropical forests. Nature Ecology & Evolution, 5(6), 845-853. https://doi.org/10.1038/s41559-021-01417-z
- Hoekstra, A. Y., Wiedmann, T. O. (2014). Humanity's unsustainable environmental footprint. Science, 344(6188), 1114–1117. https://doi.org/10.1126/SCIENCE.1248365
- Hoffmann, C., García Márquez, J. R., Krueger, T. (2018). A local perspective on drivers and measures to slow deforestation in the Andean-Amazonian foothills of Colombia. Land Use Policy, 77, 379–391. https://doi.org/10.1016/J.LANDUSEPOL.2018.04.043
- Hosonuma, N., Herold, M., De Sy, V., De Fries, R. S., Brockhaus, M., Verchot, L., ... Romijn, E. (2012). An assessment of deforestation and forest degradation drivers in developing countries. Environmental Research Letters, 7(4), 044009. http://dx.doi.org/10.1088/1748-9326/7/4/044009
- Hoyos, L. E., Cabido, M. R., Cingolani, A. M. (2018). A multivariate approach to study drivers of land-cover changes through remote sensing in the Dry Chaco of Argentina. ISPRS International Journal of Geo-Information, 7(5), 170. https://doi.org/10.3390/ijgi7050170
- Hua, F., Bruijnzeel, L. A., Meli, P., Martin, P. A., Zhang, J., Nakagawa, S., ... Balmford, A. (2022). The biodiversity and ecosystem service contributions and trade-offs of forest restoration approaches. Science, 376(6595), 839-844. https://doi.org/10.1126/science.abl4649
- IBA (2022). Relatório Anual 2022. Available at: https://www.iba.org/datafiles/publicacoes/relatorios/relatorio-anualiba2022-compactado.pdf (accessed on September 8th, 2023)
- IPBES (2019). Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany. 56 pages. https://doi.org/10.5281/zenodo.3553579
- IPCC (2022). Summary for Policymakers [P.R. Shukla, J. Skea, A. Reisinger, R. Slade, R. Fradera, M. Pathak, A. Al Khourdajie, M. Belkacemi, R. van Diemen, A. Hasija, G. Lisboa, S. Luz, J. Malley, D. McCollum, S. Some, P. Vyas, (eds.)]. In: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. https://doi.org/10.1017/9781009157926.001

- ISEAL (2021). Annual Report 2021. Available at: https://www.isealalliance.org/get-involved/resources/annual-report-2021 (accessed on September 8th, 2023)
- ISEAL (2022a). Voluntary certification schemes: no "green lane" for the EU deforestation-free products regulation but effective tools to support its implementation. Available at: https://www.isealalliance.org/get-involved/resources/voluntary-certification-schemes-no-green-lane-eu-deforestation-free-products (accessed on September 8th, 2023)
- ISEAL (2022b). ISEAL position paper on recommendations for strengthening the EU's deforestation-free supply chains proposal. Available at: https://www.isealalliance.org/get-involved/resources/iseal-position-paperrecommendations-strengthening-eus-deforestation-free (accessed on September 8th, 2023)
- ISO and IEC (2004). ISO/IEC Guide 2:2004. Standardization and related activities General vocabulary.
- ISO and IEC (2020). ISO/IEC 17000:2020. Conformity assessment Vocabulary and general principles.
- ITC (2023). Standards Map. Available at: https://www.standardsmap.org/en/home (accessed on September 8th, 2023)
- Jayathilake, H. M., Jamaludin, J., De Alban, J. D. T., Webb, E. L., Carrasco, L. R. (2023). The conversion of rubber to oil palm and other landcover types in Southeast Asia. Applied Geography, 150, 102838. https://doi.org/10.1016/j.apgeog.2022.102838
- Jennings, S., Nussbaum, R., Judd, N., Evans, T., Iacobelli, T., Jarvie, J., ... Chunquan, Z. (2003). The high conservation value forest toolkit. Edition I. Oxford, ProForest.
- Jonsson, R., Giurca, A., Masiero, M., Pepke, E., Pettenella, D., Prestemon, J., Winkel, G. (2015). Assessment of the EU Timber Regulation and FLEGT Action Plan. From Science to Policy 1. https://doi.org/https://doi.org/10.36333/fs01
- Jopke, P., Schoneveld, G. C. (2018). Corporate commitments to zero deforestation: An evaluation of externality problems and implementation gaps. Occasional Paper 181. https://doi.org/https://doi.org/10.17528/cifor/006827
- Kalischek, N., Lang, N., Renier, C., Daudt, R. C., Addoah, T., Thompson, W., ... Wegner, J. D. (2023). Cocoa plantations are associated with deforestation in Côte d'Ivoire and Ghana. Nature Food, 4(5), 384-393. https://doi.org/10.1038/s43016-023-00751-8
- Kelemen, R. D. (2010). Globalizing European union environmental policy. Journal of European Public Policy, 17(3), 335-349. https://doi.org/10.1080/13501761003662065

- Khatiwada, D., Palmén, C., Silveira, S. (2021). Evaluating the palm oil demand in Indonesia: production trends, yields, and emerging issues. Biofuels, 12(2), 135-147. https://doi.org/10.1080/17597269.2018.1461520
- Kissinger, G., Herold, M., De Sy, V. (2012). Drivers of Deforestation and Forest Degradation: A Synthesis Report for REDD+ Policymakers. Available at: https://www.cifor.org/knowledge/publication/5167 (accessed on September 8th, 2023)
- Komives, K., Arton, A., Baker, E., K. E., Longo, C., Pfaff, A., Romero, C., Newsom, D. (2018). Conservation impacts of voluntary sustainability standards: How has our understanding changed since the 2012 publication of "Toward sustainability: The roles and limitations of certification"? Available at: https://www.evidensia.eco/resources/181/conservation-impacts-ofvoluntary-sustainability-standards-how-has-our-understanding-changedsince-the-2012-publication-of-toward-sustainability-the-roles-andlimitations-of-certification/ (accessed on September 8th, 2023)
- Kreft, H., Jetz, W. (2007). Global patterns and determinants of vascular plant diversity. Proceedings of the National Academy of Sciences, 104(14), 5925-5930. https://doi.org/10.1073/pnas.0608361104
- Kumeh, E. M., Ramcilovic-Suominen, S. (2023). Is the EU shirking responsibility for its deforestation footprint in tropical countries? Power, material, and epistemic inequalities in the EU's global environmental governance. Sustainability Science, 18(2), 599–616. https://doi.org/10.1007/s11625-023-01302-7
- Lambin, E. F., Furumo, P. R. (2023). Deforestation-Free Commodity Supply Chains: Myth or Reality? Annual Review of Environment and Resources, 48. http://dx.doi.org/10.1146/annurev-environ-112321-121436
- Lambin, E. F., Gibbs, H. K., Heilmayr, R., Carlson, K. M., Fleck, L. C., Garrett, R. D., ... Walker, N. F. (2018). The role of supply-chain initiatives in reducing deforestation. Nature Climate Change, 8(2), 109-116. https://doi.org/10.1038/s41558-017-0061-1
- Lambin, E. F., Meyfroidt, P., Rueda, X., Blackman, A., Börner, J., Cerutti, P. O., ... Wunder, S. (2014). Effectiveness and synergies of policy instruments for land use governance in tropical regions. Global Environmental Change, 28, 129-140. https://doi.org/10.1016/j.gloenvcha.2014.06.007
- Lammerts van Bueren, E.M., Blom, E.M. (1997) Hierarchical framework for the formulation of sustainable forest management standards: principles, criteria, indicators. The Tropenbos Foundation, Leiden, Netherlands.
- Lang, N., Schindler, K., Wegner, J. D. (2021). High carbon stock mapping at large scale with optical satellite imagery and spaceborne LIDAR. arXiv preprint arXiv:2107.07431. https://doi.org/10.48550/arXiv.2107.07431
- Laumonier, Y., Uryu, Y., Stüwe, M., Budiman, A., Setiabudi, B., Hadian, O. (2010). Eco-floristic sectors and deforestation threats in Sumatra: identifying new conservation area network priorities for ecosystem-based

land use planning. Biodiversity and conservation, 19(4), 1153-1174. https://doi.org/10.1007/s10531-010-9784-2

- Lawson, S. (2014). Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timber Plantations. Forest Trends Report Series. Forest Trade and Finance. Available at: https://www.foresttrends.org/publications/consumer-goods-and-deforestation/ (accessed on September 8th, 2023)
- Lawson, S. (2015). Stolen Goods: The EU's complicity in illegal tropical deforestation. Available at: https://www.fern.org/de/publicationsinsight/stolen-goods-the-eus-complicity-in-illegal-tropical-deforestation-544/ (accessed on September 8th, 2023)
- Leijten, F., Sim, S., King, H., Verburg, P. H. (2020). Which forests could be protected by corporate zero deforestation commitments? A spatial assessment. Environmental Research Letters, 15(6), 064021. https://doi.org/10.1088/1748-9326/ab8158
- Lepora, C., Goodin, R. E. (2013). On Complicity and Compromise. Oxford University Press. https://doi.org/https://doi.org/10.1093/acprof:oso/9780199677900.001.00 01
- Levy, S. A., Cammelli, F., Munger, J., Gibbs, H. K., Garrett, R. D. (2023). Deforestation in the Brazilian Amazon could be halved by scaling up the implementation of zero-deforestation cattle commitments. Global Environmental Change, 80, 102671. https://doi.org/10.1016/j.gloenvcha.2023.102671
- Levy, S. A., Cammelli, F., Munger, J., Gibbs, H. K., Garrett, R. D. (2023). Deforestation in the Brazilian Amazon could be halved by scaling up the implementation of zero-deforestation cattle commitments. Global Environmental Change, 80, 102671. https://doi.org/10.1016/j.gloenvcha.2023.102671
- Lima, A. B., Novaes Keppe, A. L., Maule, F. E., Sparovek, G., Correa Alves, M., Maule, R. F. (2009). Does Certification Make a Difference? Impact Assessment Study on FSC/SAN Certification in Brazil. Available at: https://www.researchgate.net/publication/284550482_Does_certification_ make_a_difference_Impact_assessment_study_on_FSCSAN_certification n_in_Brazil (accessed on September 8th, 2023)
- Limaho, H., Sugiarto, Pramono, R., Christiawan, R. (2022). The Need for Global Green Marketing for the Palm Oil Industry in Indonesia. Sustainability, 14(14), 8621. https://doi.org/10.3390/su14148621
- Lin, D., Hanscom, L., Murthy, A., Galli, A., Evans, M., Neill, E., ... Wackernagel, M. (2018). Ecological Footprint Accounting for Countries: Updates and Results of the National Footprint Accounts, 2012–2018. Resources 2018, Vol. 7, Page 58, 7(3), 58. https://doi.org/10.3390/RESOURCES7030058

- Loconto, A., Fouilleux, E. (2014). Politics of private regulation: ISEAL and the shaping of transnational sustainability governance. Regulation Governance, 8(2), 166-185. https://doi.org/10.1111/rego.12028
- López-Poma, R., Pivello, V. R., de Brito, G. S., Bautista, S. (2020). Impact of the conversion of Brazilian woodland savanna (cerradão) to pasture and Eucalyptus plantations on soil nitrogen mineralization. Science of the Total Environment, 704, 135397. https://doi.org/10.1016/j.scitotenv.2019.135397
- Lourençoni, T., da Silva Junior, C. A., Lima, M., Teodoro, P. E., Pelissari, T. D., Dos Santos, R. G., ... Rossi, F. S. (2021). Advance of soy commodity in the southern Amazonia with deforestation via PRODES and ImazonGeo: a moratorium-based approach. Scientific Reports, 11(1), 21792. https://doi.org/10.1038/s41598-021-01350-y
- Loveridge, R., Sallu, S. M., Pfeifer, M., Oldekop, J. A., Mgaya, M., da Silva, D. A., ... Marshall, A. R. (2021). Certified community forests positively impact human wellbeing and conservation effectiveness and improve the performance of nearby national protected areas. Conservation Letters, 14(6), e12831. https://doi.org/10.1111/conl.12831
- Lyons-White, J., Pollard, E. H. B., Catalano, A. S., Knight, A. T. (2020). Rethinking zero deforestation beyond 2020 to more equitably and effectively conserve tropical forests. One Earth, 3(6), 714–726. https://doi.org/10.1016/J.ONEEAR.2020.11.007
- Maesano, M., Lasserre, B., Masiero, M., Tonti, D., Marchetti, M. (2016). First mapping of the main high conservation value forests (HCVFs) at national scale: The case of Italy. Plant Biosystems-An International Journal Dealing with all Aspects of Plant Biology, 150(2), 208-216. https://doi.org/10.1080/11263504.2014.948524
- Mammadova, A., Masiero, M., Pettenella, D. (2020). Embedded deforestation: the case study of the Brazilian–Italian bovine leather trade. Forests, 11(4), 472. http://dx.doi.org/10.3390/f11040472
- Man, R., German, L. (2017). Certifying the sustainability of biofuels: Promise and reality. Energy Policy, 109, 871–883. https://doi.org/10.1016/J.ENPOL.2017.05.047
- Marques, J. C., Eberlein, B. (2021). Grounding transnational business governance: A political-strategic perspective on government responses in the Global South. Regulation & Governance, 15(4), 1209–1229. https://doi.org/10.1111/REGO.12356
- Marx, A. (2018). Integrating Voluntary Sustainability Standards in Trade Policy: The Case of the European Union's GSP Scheme. Sustainability 2018, Vol. 10, Page 4364, 10(12), 4364. https://doi.org/10.3390/SU10124364
- Marx, A., Depoorter, C. (2021). Voluntary Sustainability Standards. In Delimatsis, P., Reins, L. (eds.). Trade and Environmental Law. Vol XI. Cheltenham, Edward Elgar Publishing, 704–714.
- Mather, A. S. (1992). The forest transition. Area, 367-379.

- Matuštík, J., Kočí, V. (2021). What is a footprint? A conceptual analysis of environmental footprint indicators. Journal of Cleaner Production, 285, 124833. https://doi.org/10.1016/J.JCLEPRO.2020.124833
- MEA (2005). Ecosystems and Human Well-being: Synthesis. Washington DC, Island Press. Available at: https://www.millenniumassessment.org/documents/document.356.aspx.p df (accessed on September 8th, 2023)
- Meemken, E. M., Barrett, C. B., Michelson, H. C., Qaim, M., Reardon, T., Sellare, J. (2021). Sustainability standards in global agrifood supply chains. Nature Food, 2(10), 758-765. https://doi.org/10.1038/s43016-021-00360-3
- Meier, C., Sampson, G., Larrea, C., Schlatter, B., Bermudez, S., Dang, D., Willer, H. (2021). The State of Sustainable Markets 2021: Statistics and Emerging Trends. International Trade Centre. Available at: https://intracen.org/file/sustainablemarkets202120220712webpagespdf (accessed on September 8th, 2023)
- Meier, C., Sampson, G., Larrea, C., Schlatter, B., Voora, V., Dang, D., ... Willer, H. (2020). The State of Sustainable Markets 2020: Statistics and Emerging Trends. International Trade Centre. Available at: https://intracen.org/file/sustainablemarkets2020-layout20201012webpdf (accessed on September 8th, 2023)
- Meijer, K. S. (2014). Can Supply Chain Initiatives Reduce Deforestation? A comparative analysis of cases from Brazil and Indonesia. Discussion Paper 36/2014. Available at: https://www.idos-research.de/discussionpaper/article/can-supply-chain-initiatives-reduce-deforestation-acomparative-analysis-of-cases-from-brazil-and-indonesia/ (accessed on September 8th, 2023)
- Meijer, K. S. (2015). A Comparative Analysis of the Effectiveness of Four Supply Chain Initiatives to Reduce Deforestation. Tropical Conservation Science, 8(2), 583–597. https://doi.org/10.1177/194008291500800219
- Meyer, A. L., Van Kooten, G. C., Wang, S. (2003). Institutional, social and economic roots of deforestation: a cross-country comparison. International Forestry Review, 5(1), 29-37. https://doi.org/10.1505/IFOR.5.1.29.17427
- Meyfroidt, P., Lambin, E. F., Erb, K. H., Hertel, T. W. (2013). Globalization of land use: distant drivers of land change and geographic displacement of land use. Current Opinion in Environmental Sustainability, 5(5), 438-444. https://doi.org/10.1016/j.cosust.2013.04.003
- Milder, J. C., Arbuthnot, M., Blackman, A., Brooks, S. E., Giovannucci, D., Gross, L., ... Zrust, M. (2015). An agenda for assessing and improving conservation impacts of sustainability standards in tropical agriculture. Conservation biology, 29(2), 309-320. https://doi.org/10.1111/cobi.12411
- Milhorance, C., Bursztyn, M., Sabourin, E. (2020). From policy mix to policy networks: assessing climate and land use policy interactions in Mato

Grosso, Brazil. Journal of Environmental Policy & Planning, 22(3), 381–396. https://doi.org/10.1080/1523908X.2020.1740658

- Mirabelli, G., Solina, V. (2020). Blockchain and agricultural supply chains traceability: Research trends and future challenges. Procedia Manufacturing, 42, 414-421. https://doi.org/10.1016/j.promfg.2020.02.054
- Mitchell, E., Elwin, P., Rautner, M. (2022). Gran Chaco: the Deforestation Dozen. Planet Tracker. Available at: https://planet-tracker.org/wpcontent/uploads/2022/03/Gran-Chaco-LD-report.pdf (accessed on September 8th, 2023)
- Miteva, D. A., Loucks, C. J., Pattanayak, S. K. (2015). Social and Environmental Impacts of Forest Management Certification in Indonesia. PLOS ONE, 10(7), e0129675. https://doi.org/10.1371/JOURNAL.PONE.0129675
- Mittermeier, R. A., Turner, W. R., Larsen, F. W., Brooks, T. M., Gascon, C. (2011). Global biodiversity conservation: the critical role of hotspots. In: Zachos, F. E., Habel, J. C. (eds). Biodiversity hotspots: distribution and protection of conservation priority areas. Berlin, Springer, 3-22.
- Mol, A. P., Oosterveer, P. (2015). Certification of markets, markets of certificates: Tracing sustainability in global agro-food value chains. Sustainability, 7(9), 12258-12278. https://doi.org/10.3390/su70912258
- Morton, D. C., DeFries, R. S., Shimabukuro, Y., Morisette, J. (2006). Cropland expansion changes deforestation dynamics in the southern Brazilian Amazon. Proceedings of the National Academy of Sciences, 103.39 (2006): 14637-14641. https://doi.org/10.1073/pnas.0606377103
- Moser, C., Leipold, S. (2021). Toward "hardened" accountability? Analyzing the European Union's hybrid transnational governance in timber and biofuel supply chains. Regulation & Governance, 15(1), 115–132. https://doi.org/10.1111/REGO.12268
- Muñoz-Piña, C., Guevara, A., Torres, J. M., Braña, J. (2008). Paying for the hydrological services of Mexico's forests: Analysis, negotiations and results. Ecological Economics, 65(4), 725-736. https://doi.org/10.1016/j.ecolecon.2007.07.031
- Nagendra, H., Southworth, J., Tucker, C. (2003). Accessibility as a determinant of landscape transformation in western Honduras: linking pattern and process. Landscape Ecology, 18, 141-158. https://doi.org/10.1023/A:1024430026953
- Nahuelhual, L., Carmona, A., Lara, A., Echeverría, C., González, M. E. (2012). Land-cover change to forest plantations: Proximate causes and implications for the landscape in south-central Chile. Landscape and urban planning, 107(1), 12-20. https://doi.org/10.1016/j.landurbplan.2012.04.006
- Naime, J., Angelsen, A., Molina-Garzón, A., Carrilho, C. D., Selviana, V., Demarchi, G., ... Martius, C. (2022). Enforcement and inequality in collective PES to reduce tropical deforestation: Effectiveness, efficiency

and equity implications. Global Environmental Change, 74, 102520. https://doi.org/10.1016/j.gloenvcha.2022.102520

- Nathan, I., Chen, J., Hansen, C. P., Xu, B., Li, Y. (2018). Facing the complexities of the global timber trade regime: How do Chinese wood enterprises respond to international legality verification requirements, and what are the implications for regime effectiveness? Forest Policy and Economics, 92, 169-180. https://doi.org/10.1016/j.forpol.2018.05.003
- Ningsih, I. K., Ingram, V., Savilaakso, S. (2020). Voluntary sustainability certification and state regulations: Paths to promote the conservation of ecosystem services? Experiences in Indonesia. Forests, 11(5), 503. https://doi.org/10.3390/f11050503
- Numata, I., Elmore, A. J., Cochrane, M. A., Wang, C., Zhao, J., Zhang, X. (2022). Deforestation, plantation-related land cover dynamics and oil palm age-structure change during 1990–2020 in Riau Province, Indonesia. Environmental Research Letters, 17(9), 094024. https://doi.org/10.1088/1748-9326/ac8a61
- OECD (2018). OECD Due Diligence Guidance for Responsible Business Conduct. Available at: https://mneguidelines.oecd.org/OECD-Due-Diligence-Guidance-for-Responsible-Business-Conduct.pdf (accessed on September 8th, 2023)

OECD (2022). Improving Environmental Outcomes Along Food Supply Chains: A Review of Initiatives and their Effectiveness. OECD Food, Agriculture and Fisheries. Paper n°186. Available at: https://www.oecdilibrary.org/docserver/d549eb43en.pdf?expires=1688636454&id=id&accname=guest&checksum=6A171 BD610E275AEBE99B182A3B66B99 (accessed on September 8th, 2023)

- OECD, FAO (2023). OECD-FAO Business Handbook on Deforestation and Due Diligence in Agricultural Supply Chains. Available at: https://www.oecd.org/publications/oecd-fao-business-handbook-ondeforestation-and-due-diligence-in-agricultural-supply-chains-c0d4bca7en.htm (accessed on September 8th, 2023)
- Oppong, D., Bannor, R. K. (2022). Bibliometric analysis and systematic review of compliance with agricultural certification standards: evidence from Africa and Asia. All Life, 15(1), 970-999. https://doi.org/10.1080/26895293.2022.2124317
- Ouattara, T., Kouamé, F., Casimir, Z. B., Vaudry, R., Grinand, C. (2021). Changements d'occupation et d'usage des terres entre 2016 et 2019 dans le Sud-Est de la Côte d'Ivoire: impact des cultures de rente sur la forêt. Bois & Forets des Tropiques, 347, 91-106. https://doi.org/10.19182/bft2021.347.a31868
- Pacheco, P., Mo, K., Dudley, N., Shapiro, A., Aguilar-Amuchastegui, N., Ling, P. Y., ... Marx, A. (2021). Deforestation fronts: Drivers and responses in a changing world. https://www.worldwildlife.org/publications/deforestationfronts-drivers-and-responses-in-a-changing-world-full-report (accessed on September 8th, 2023)

- Pacheco, P., Poccard-Chapuis, R. (2012). The complex evolution of cattle ranching development amid market integration and policy shifts in the Brazilian Amazon. Annals of the Association of American Geographers, 102(6), 1366-1390. https://doi.org/10.1080/00045608.2012.678040
- Pacini, H., Assunção, L. (2014). Sustainable biofuels in the EU: the costs of certification and impacts on new producers. Biofuels, 2(6), 595–598. https://doi.org/10.4155/BFS.11.138
- Pan, Y., Birdsey, R. A., Fang, J., Houghton, R., Kauppi, P. E., Kurz, W. A., ... Hayes, D. (2011). A large and persistent carbon sink in the world's forests. Science, 333(6045), 988-993. https://doi.org/10.1126/science.1201609
- Panlasigui, S., Rico-Strafon, J., Swenson, J., Loucks, C. J., Pfaf, A. (2015). Early Days in the Certification of Logging Concessions: Estimating FSC's Deforestation Impact in Peru and Cameroon. Duke Environmental and Energy Economics Working Paper EE, 15-05. Available at: https://sites.nicholasinstitute.duke.edu/environmentaleconomics/wpcontent/uploads/sites/3/2015/08/WP-EE-15-05-FULL-PDF.pdf (accessed on September 8th, 2023)
- PEFC (2023). PEFC and FSC Double Certification (2016 2022). PEFC Factsheet mid-2022. Available at: https://pefc.org/discover-pefc/facts-and-figures (accessed on September 8th, 2023)
- Pendrill, F., Gardner, T. A., Meyfroidt, P., Persson, U. M., Adams, J., Azevedo, T., ... West, C. (2022). Disentangling the numbers behind agriculturedriven tropical deforestation. Science, 377(6611), eabm9267. https://doi.org/10.1126/science.abm9267
- Pendrill, F., Persson, U. M., Godar, J., Kastner, T. (2019b). Deforestation displaced: trade in forest-risk commodities and the prospects for a global forest transition. Environmental Research Letters, 14(5), 055003. https://doi.org/10.1088/1748-9326/AB0D41
- Pendrill, F., Persson, U. M., Godar, J., Kastner, T., Moran, D., Schmidt, S., Wood, R. (2019a). Agricultural and forestry trade drives large share of tropical deforestation emissions. Global Environmental Change, 56, 1-10. https://doi.org/10.1016/j.gloenvcha.2019.03.002
- Pendrill, F., Persson, U. M., Kastner, T. (2020). Deforestation risk embodied in production and consumption of agricultural and forestry commodities 2005-2017 (1.0) [Data set]. Zenodo. https://doi.org/10.5281/zenodo.4250532
- Pendrill, F., Persson, U. M., Kastner, T., Richard W. (2022). Deforestation risk embodied in production and consumption of agricultural and forestry commodities 2005-2018 (1.1) [Data set]. Zenodo. https://doi.org/10.5281/zenodo.5886600
- Pérez, P. A. Q. (2022). Tropical forests and forest-risk commodities: an integrated framework for the assessment of deforestation risks associated with the trade of FRCs in Europe. Thesis (MSc in Forest

Science). Padova, University of Padova. Available at: https://thesis.unipd.it/handle/20.500.12608/31998 (accessed on September 8th, 2023)

- Pillay, R., Venter, M., Aragon-Osejo, J., González-del-Pliego, P., Hansen, A. J., Watson, J. E., Venter, O. (2022). Tropical forests are home to over half of the world's vertebrate species. Frontiers in Ecology and the Environment, 20(1), 10-15. https://doi.org/10.1002/fee.2420
- Pirard, R., Pacheco, P., Romero, C. (2023). The role of hybrid governance in supporting deforestation-free trade. Ecological Economics, 210, 107867. https://doi.org/10.1016/j.ecolecon.2023.107867
- Poletti, A., Sicurelli, D., Yildirim, A. B. (2021). Promoting sustainable development through trade? EU trade agreements and global value chains. Italian Political Science Review/Rivista Italiana Di Scienza Politica, 51(3), 339-354. https://doi.org/10.1017/ipo.2020.33
- Ponte, S., Daugbjerg, C. (2015). Biofuel sustainability and the formation of transnational hybrid governance. Environmental Politics, 24(1), 96–114. https://doi.org/10.1080/09644016.2014.954776
- Pontecorvo, C.M. (2022). The Proposed EU Regulation on Trade in Forest-Risk Commodities (FRCs): A First Assessment. In: Bäumler, J., *et al.* European Yearbook of International Economic Law 2022. European Yearbook of International Economic Law, vol 13. Springer, Cham. https://doi.org/10.1007/8165_2022_86
- Preferred by Nature (2012). EU Timber Regulation: will FSC and PEFC pass the mark? Available at: hhttps://preferredbynature.org/newsroom/eutimber-regulation-will-fsc-and-pefc-pass-mark-0 (accessed on September 8th, 2023)
- Preferred by Nature (2013). FSC makes final moves to align with the EU Timber Regulation. Available at: https://preferredbynature.org/newsroom/fscmakes-final-moves-align-eu-timber-regulation (accessed on September 8th, 2023)
- Preferred by Nature (2019a). How forest certification systems meet the EUTR requirements. Forest Stewardship Council (FSC). Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&c ad=rja&uact=8&ved=2ahUKEwiiwobBxvOAAxUTR_EDHSU0Ai8QFnoEC A8QAQ&url=https%3A%2F%2Fpreferredbynature.org%2Flt%2Ffile%2F1 0723%2Fdownload%3Ftoken%3Dk05opUz-&usg=AOvVaw3b9ybS1yF-TAYSqY5OXXgl&opi=89978449 (accessed on September 8th, 2023)
- Preferred by Nature (2019b). How forest certification systems meet the EUTR requirements. The Programme for the Endorsement of Forest Certification (PEFC): International, Brazilian and Malaysian national standards. Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&c ad=rja&uact=8&ved=2ahUKEwiH_ZCksfeAAxWWgP0HHTF_BtAQFnoE CA8QAQ&url=https%3A%2F%2Fpreferredbynature.org%2Fbg%2Ffile%

2F10724%2Fdownload%3Ftoken%3DNu7g5x4u&usg=AOvVaw0Uy5N0d E7qTiMOm4T3F8I_&opi=89978449 (accessed on September 8th, 2023)

- Preferred by Nature (2021). Report: Study on Certification and Verification Schemes in the Forest Sector and for Wood-based Products. Available at: https://doi.org/https://data.europa.eu/doi/10.2779/126030 (accessed on September 8th, 2023)
- Rainforest Alliance (2020). Our Journey to More Sustainable Cattle Ranching. Available at: https://www.rainforest-alliance.org/in-the-field/our-journeyto-more-sustainable-cattle-ranching/ (accessed on September 8th, 2023)
- Rainforest Alliance (2021). Origin Issue Assessment: Peru Coffee. Available at: https://www.rainforest-alliance.org/resource-item/origin-issueassessment-peru-coffee/ (accessed on September 8th, 2023)
- Rainforest Alliance (2022a). Our Response to the EU Regulation on Deforestation-Free Products. Available at: https://www.rainforestalliance.org/wpcontent/uploads/2022/03/EU_Regulation_Deforestation_Free_Products_ A4 220505 (accessed on September 8th, 2023)
- Rainforest Alliance (2022b). 2021 Annual Report. Available at: https://www.rainforest-alliance.org/annual_report/2021/#certification (accessed on September 8th, 2023)
- Ramos, D., Hartke, T. R., Buchori, D., Dupérré, N., Hidayat, P., Lia, M., ... Drescher, J. (2022). Rainforest conversion to rubber and oil palm reduces abundance, biomass and diversity of canopy spiders. PeerJ, 10, e13898. https://doi.org/10.7717/peerj.13898
- Reed, J., van Vianen, J., Foli, S., Clendenning, J., Yang, K., MacDonald, M., ... Sunderland, T. (2017). Trees for life: The ecosystem service contribution of trees to food production and livelihoods in the tropics. Forest Policy and Economics, 84, 62-71. https://doi.org/10.1016/j.forpol.2017.01.012
- Reis, T. N., de Faria, V. G., Lopes, G. R., Sparovek, G., West, C., Rajão, R., ... do Valle, R. S. (2021). Trading deforestation—why the legality of forestrisk commodities is insufficient. Environmental Research Letters, 16(12), 124025. https://doi.org/10.1088/1748-9326/AC358D
- Renier, C., Vandromme, M., Meyfroidt, P., Ribeiro, V., Kalischek, N., zu Ermgassen, E. K. (2023). Transparency, traceability and deforestation in the Ivorian cocoa supply chain. Environmental Research Letters, 18, 024030. https://doi.org/10.1088/1748-9326/acad8e
- Rezende, J. S., Freire, F. J., Araújo Filho, J. C. D., Dos Santos Freire, M. B. G., Gomes de Almeida, B., Costa Santos, L. R. (2022). Impact of deforestation on the soil physical and chemical attributes, and humic fraction of organic matter in dry environments in Brazil. iForest-Biogeosciences and Forestry, 15(6), 465. https://doi.org/10.3832/ifor4016-015

- Rogowska, D., Berdechowski, K., Łaczek, T. (2016). The development of the KZR INiG System–european certification scheme. Nafta-Gaz, 5, 370–375. https://doi.org/http://doi.org/10.18668/NG.2016.05.09
- Romanelli, J. P., Meli, P., Santos, J. P. B., Jacob, I. N., Souza, L. R., Rodrigues, A. V., ... Rodrigues, R. R. (2022). Biodiversity responses to restoration across the Brazilian Atlantic Forest. Science of The Total Environment, 821, 153403. https://doi.org/10.1016/j.scitotenv.2022.153403
- Rosoman, G., Sheun, S.S., Opal, C., Anderson, P., Trapshah, R. (2017). The HCS Approach Toolkit. Singapore, HCS Approach Steering Group. Available at: https://highcarbonstock.org/wpcontent/uploads/2017/09/HCSA-Toolkit-v2.0-Module-4-Forest-andvegetation-stratification-190917-web.pdf (accessed on September 8th, 2023)
- Rothrock, P., Ellis, K., Weatherer. L. (2022). Corporate Progress on No Deforestation and "Nature Positive" Post 2020. Available at: https://www.forest-trends.org/publications/corporate-progress-on-nodeforestation-and-nature-positive-post-2020/ (accessed on September 8th, 2023)
- RSPO (2015). Remediation and Compensation Procedure (RaCP) Related to Land Clearance Without Prior High Conservation Value (HCV) Assessment. Available at: https://rspo.org/wp-content/uploads/rsporemediation-and-compensation-procedures-english.pdf (accessed on September 8th, 2023)
- RSPO (2021). Deforestation: Calling for a holistic approach. Available at: https://rspo.org/deforestation-calling-for-a-holistic-approach/ (accessed on September 8th, 2023)
- RSPO (2022a). Press release: RSPO's response to the political agreement on the Deforestation Regulation. Available at: https://rspo.org/press-releaserspos-response-to-the-political-agreement-on-the-deforestationregulation (accessed on September 8th, 2023)
- RSPO (2022b). Impact Report 2022. Available at: https://rspo.org/wpcontent/uploads/RSPO-Impact-Report-2022.pdf (accessed on September 8th, 2023)
- RSPO (2023). HCV1-3 Probability Maps. Available at: https://rspo.org/resources/?category=georspo-hcv1-3-probability-maps (accessed on September 8th, 2023)
- RTRS (2020). RTRS Maps. Available at: https://responsiblesoy.org/mapasrtrs?lang=en (accessed on September 8th, 2023)
- RTRS (2022). Management Report 2021. Available at: https://responsiblesoy.org/management-report-2021?lang=en (accessed on September 8th, 2023)
- Rubio-Jovel, K. (2022). The voluntary sustainability standards and their contribution towards the achievement of the Sustainable Development

Goals: A systematic review on the coffee sector. Journal of International Development. https://doi.org/10.1002/JID.3717

- Rudel, T. K., Coomes, O. T., Moran, E., Achard, F., Angelsen, A., Xu, J., Lambin, E. (2005). Forest transitions: towards a global understanding of land use change. Global Environmental Change, 15(1), 23-31. https://doi.org/10.1016/j.gloenvcha.2004.11.001
- Rudel, T. K., Defries, R., Asner, G. P., Laurance, W. F. (2009). Changing drivers of deforestation and new opportunities for conservation. Conservation Biology: The Journal of the Society for Conservation Biology, 23(6), 1396–1405. https://doi.org/10.1111/J.1523-1739.2009.01332.X
- Rueda, X., Thomas, N. E., Lambin, E. F. (2015). Eco-certification and coffee cultivation enhance tree cover and forest connectivity in the Colombian coffee landscapes. Regional Environmental Change, 15(1), 25–33. https://doi.org/10.1007/s10113-014-0607-y
- Ruf, F., Schroth, G., Doffangui, K. (2015). Climate change, cocoa migrations and deforestation in West Africa: What does the past tell us about the future? Sustainability Science, 10, 101-111. https://doi.org/10.1007/s11625-014-0282-4
- Sánchez-Cuervo, A. M., Aide, T. M., Clark, M. L., Etter, A. (2012). Land cover change in Colombia: surprising forest recovery trends between 2001 and 2010. https://doi.org/10.1371/journal.pone.0043943
- Sassen, M., van Soesbergen, A., Arnell, A. P., Scott, E. (2022). Patterns of (future) environmental risks from cocoa expansion and intensification in West Africa call for context specific responses. Land Use Policy, 119, 106142. https://doi.org/10.1016/j.landusepol.2022.106142
- Sayer, C. A., Bullock, J. M., Martin, P. A. (2017). Dynamics of avian species and functional diversity in secondary tropical forests. Biological Conservation, 211, 1-9. https://doi.org/10.1016/j.biocon.2017.05.004
- Scherer, A. G., Palazzo, G. (2011). The New Political Role of Business in a Globalized World: A Review of a New Perspective on CSR and its Implications for the Firm, Governance, and Democracy. Journal of Management Studies, 48(4), 899–931. https://doi.org/10.1111/J.1467-6486.2010.00950.X
- Schilling-Vacaflor, A., Lenschow, A. (2021). Hardening foreign corporate accountability through mandatory due diligence in the European Union? New trends and persisting challenges. Regulation & Governance, 17, 677–693. https://doi.org/10.1111/rego.12402
- Schleifer, P., Brandi, C., Verma, R., Bissinger, K., Fiorini, M. (2022). Voluntary standards and the SDGs: Mapping public-private complementarities for sustainable development. Earth System Governance, 14, 100153. https://doi.org/10.1016/J.ESG.2022.100153
- Schulz, J. J., Cayuela, L., Echeverria, C., Salas, J., Benayas, J. M. R. (2010). Monitoring land cover change of the dryland forest landscape of Central

Chile (1975–2008). Applied Geography, 30(3), 436-447. https://doi.org/10.1016/j.apgeog.2009.12.003

- Sekercioglu, C. H. (2012). Bird functional diversity and ecosystem services in tropical forests, agroforests and agricultural areas. Journal of Ornithology, 153(Suppl 1), 153-161. https://doi.org/10.1007/s10336-012-0869-4
- Senior, M. J., Brown, E., Villalpando, P., Hill, J. K. (2015). Increasing the scientific evidence base in the "high conservation value" (HCV) approach for biodiversity conservation in managed tropical landscapes. Conservation Letters, 8(5), 361-367. https://doi.org/10.1111/conl.12148
- Silva, C. A., Lima, M. (2018). Soy Moratorium in Mato Grosso: deforestation undermines the agreement. Land Use Policy, 71, 540-542. https://doi.org/10.1016/j.landusepol.2017.11.011
- Skidmore, M. E., Moffette, F., Rausch, L., Christie, M., Munger, J., Gibbs, H. K. (2021). Cattle ranchers and deforestation in the Brazilian Amazon: Production, location, and policies. Global Environmental Change, 68, 102280. https://doi.org/10.1016/j.gloenvcha.2021.102280
- Sotirov, M., Azevedo-Ramos, C., Rattis, L., Berning, L. (2022). Policy options to regulate timber and agricultural supply-chains for legality and sustainability: The case of the EU and Brazil. Forest Policy and Economics, 144, 102818. https://doi.org/10.1016/J.FORPOL.2022.102818
- Sotirov, M., Stelter, M., Winkel, G. (2017). The emergence of the European Union Timber Regulation: How Baptists, Bootleggers, devil shifting and moral legitimacy drive change in the environmental governance of global timber trade. Forest Policy and Economics, 81, 69-81. http://dx.doi.org/10.1016/j.forpol.2017.05.001
- Staal, A., Flores, B. M., Aguiar, A. P. D., Bosmans, J. H., Fetzer, I., Tuinenburg, O. A. (2020). Feedback between drought and deforestation in the Amazon. Environmental Research Letters, 15(4), 044024. https://doi.org/10.1088/1748-9326/ab738e
- Stabile, M. C., Guimarães, A. L., Silva, D. S., Ribeiro, V., Macedo, M. N., Coe, M. T., ... Alencar, A. (2020). Solving Brazil's land use puzzle: Increasing production and slowing Amazon deforestation. Land use policy, 91, 104362. https://doi.org/10.1088/1748-9326/ab6497
- Staricco, J. I., Buraschi, M. (2022). Putting transnational "hybrid" governance to work: An examination of EU-RED's implementation in the Argentinean biodiesel sector. Geoforum, 131, 185–195. https://doi.org/10.1016/J.GEOFORUM.2022.03.014
- Stattman, S. L., Gupta, A., Partzsch, L., Oosterveer, P. (2018). Toward Sustainable Biofuels in the European Union? Lessons from a Decade of Hybrid Biofuel Governance. Sustainability, 10(11), 4111. https://doi.org/10.3390/SU10114111

- Syrovátka, M. (2020). On sustainability interpretations of the Ecological Footprint. Ecological Economics, 169, 106543. https://doi.org/10.1016/J.ECOLECON.2019.106543
- Tagesson, T., Schurgers, G., Horion, S., Ciais, P., Tian, F., Brandt, M., ... Fensholt, R. (2020). Recent divergence in the contributions of tropical and boreal forests to the terrestrial carbon sink. Nature Ecology & Evolution, 4(2), 202-209. https://doi.org/10.1038/s41559-019-1090-0
- Takahashi, R., Todo, Y. (2013). The impact of a shade coffee certification program on forest conservation: A case study from a wild coffee forest in Ethiopia. Journal of Environmental Management, 130, 48–54. https://doi.org/10.1016/J.JENVMAN.2013.08.025
- Takahashi, R., Todo, Y. (2014). The impact of a shade coffee certification program on forest conservation using remote sensing and household data. Environmental Impact Assessment Review, 44, 76–81. https://doi.org/10.1016/J.EIAR.2013.10.002
- Tayleur, C., Balmford, A., Buchanan, G. M., Butchart, S. H. M., Ducharme, H., Green, R. E., ... Phalan, B. (2017). Global Coverage of Agricultural Sustainability Standards, and Their Role in Conserving Biodiversity. Conservation Letters, 10(5), 610–618. https://doi.org/10.1111/CONL.12314
- Tayleur, C., Balmford, A., Buchanan, G. M., Butchart, S. H., Walker, C. C., Ducharme, H., ... Phalan, B. (2018). Where are commodity crops certified, and what does it mean for conservation and poverty alleviation? Biological Conservation, 217, 36-46. https://doi.org/10.1016/J.BIOCON.2017.09.024
- Taylor, C., Lindenmayer, D. B. (2021). Stakeholder engagement in a Forest Stewardship Council Controlled Wood assessment. Environmental Science & Policy, 120, 204-212. https://doi.org/10.1016/j.envsci.2021.03.014
- The Guardian (2021). Leaked EU anti-deforestation law omits fragile grasslands and wetlands. Available at: https://www.theguardian.com/environment/2021/sep/14/leaked-eu-antideforestation-law-omits-fragile-grasslands-and-wetlands (accessed on September 8th, 2023)
- Thomson, E., Fairbairn, A. (2023). A watershed year for action on deforestation. Available at: https://forest500.org/publications/2023-watershed-yearaction-deforestation (accessed on September 8th, 2023)
- Traldi, R. (2021). Progress and pitfalls: A systematic review of the evidence for agricultural sustainability standards. Ecological Indicators, 125, 107490. https://doi.org/10.1016/J.ECOLIND.2021.107490
- Treanor, N. B., Saunders, J. (2021). Tackling (illegal) deforestation in coffee supply chains: What impact can demand-side regulations have? Forest Trends. Available at: https://www.forest-trends.org/wp-

content/uploads/2021/02/10-things-to-know-about-coffee-production.pdf (accessed on September 8th, 2023)

- Tricallotis, M., Gunningham, N., Kanowski, P. (2018). The impacts of forest certification for Chilean forestry businesses. Forest Policy and Economics, 92, 82-91. https://doi.org/10.1016/j.forpol.2018.03.007
- Trishkin, M., Karjalainen, T., Kangas, J. (2019). An analysis of the nonconformities of certified companies operating in Northwestern Russia. Forests, 10(12), 1061. http://dx.doi.org/10.3390/f10121061
- Tritsch, I., Le Velly, G., Mertens, B., Meyfroidt, P., Sannier, C., Makak, J. S., Houngbedji, K. (2020). Do forest-management plans and FSC certification help avoid deforestation in the Congo Basin? Ecological Economics, 175, 106660. https://doi.org/10.1016/J.ECOLECON.2020.106660
- Trujillo-Miranda, A. L., Toledo-Aceves, T., López-Barrera, F., Gerez-Fernández, P. (2018). Active versus passive restoration: Recovery of cloud forest structure, diversity and soil condition in abandoned pastures. Ecological Engineering, 117, 50-61. https://doi.org/10.1016/j.ecoleng.2018.03.011
- Tscharntke, T., Milder, J. C., Schroth, G., Clough, Y., Declerck, F., Waldron, A., Rice, R., Ghazoul, J. (2015). Conserving Biodiversity Through Certification of Tropical Agroforestry Crops at Local and Landscape Scales. Conservation Letters, 8(1), 14–23. https://doi.org/10.1111/CONL.12110
- Tulet, J. C. (2010). Peru as a new major actor in Latin American coffee production. Latin American Perspectives, 37(2), 133-141. https://doi.org/10.1177/0094582X09356962
- Turner, E. C., Snaddon, J. L. (2023). Deforestation in Southeast Asia. In Biological and Environmental Hazards, Risks, and Disasters (pp. 319-334). Elsevier. https://doi.org/10.1016/B978-0-12-820509-9.00004-6
- UNFSS (2013). Voluntary Sustainability Standards. Today's Landscape of Issues and Initiatives to Achieve Public Policy Objectives. Part 1: Issues. Available at: https://unctad.org/publication/voluntary-sustainabilitystandards-todays-landscape-issues-and-initiatives-achieve (accessed on September 8th, 2023)
- UNFSS (2022). Voluntary Sustainability Standards Sustainability Agenda and Developing Countries: Opportunities and Challenges. Available at: https://unctad.org/publication/voluntary-sustainability-standardssustainability-agenda-and-developing-countries (accessed on September 8th, 2023)
- UNFSS. (2020). Scaling up Voluntary Sustainability Standards through Sustainable Public Procurement and Trade Policy. Available at: https://unctad.org/publication/scaling-voluntary-sustainability-standardsthrough-sustainability-public-procurement (accessed on September 8th, 2023)

- UNODC (2023). THE nexus between drugs and crimes that affect the environment and convergent crime in the amAZON basin. Available at: https://www.unodc.org/res/WDR-2023/WDR23_B3_CH4_Amazon.pdf (accessed on September 8th, 2023)
- USDA (2023). Palm Oil Explorer. Available at: https://ipad.fas.usda.gov/cropexplorer/cropview/commodityView.aspx?cr opid=4243000 (accessed on September 8th, 2023)
- Usva, K., Sinkko, T., Silvenius, F., Riipi, I., Heusala, H. (2020). Carbon and water footprint of coffee consumed in Finland—life cycle assessment. The International Journal of Life Cycle Assessment, 25, 1976-1990. https://doi.org/10.1007/s11367-020-01799-5
- Utting, P. (2002). Regulating Business Via Multi-Stakeholders Initiatives: A Preliminary Assessment. Available at: https://www.unrisd.org/en/research/publications/voluntary-approaches-tocorporate-responsibility-readings-and-a-resource-guide/regulatingbusiness-via-multistakeholder-initiatives-a-preliminary-assessment (accessed on September 8th, 2023)
- van der Ven, H., Barmes, D. (2023). The uneasy marriage of private standards and public policies for sustainable commodity governance. Business Strategy and the Environment. https://doi.org/10.1002/bse.3424
- van der Ven, H., Cashore, B. (2018). Forest certification: the challenge of measuring impacts. Current Opinion in Environmental Sustainability, 32, 104–111. https://doi.org/10.1016/J.COSUST.2018.06.001
- van der Ven, H., Rothacker, C., Cashore, B. (2018). Do eco-labels prevent deforestation? Lessons from non-state market driven governance in the soy, palm oil, and cocoa sectors. Global Environmental Change, 52, 141–151. https://doi.org/10.1016/J.GLOENVCHA.2018.07.002
- VanderWilde, C. P., Newell, J. P., Gounaridis, D., Goldstein, B. P. (2023). Deforestation, certification, and transnational palm oil supply chains: Linking Guatemala to global consumer markets. Journal of Environmental Management, 344, 118505. https://doi.org/10.1016/j.jenvman.2023.118505
- Vieira, R. M. D., Tomasella, J., Barbosa, A. A., Martins, M. A., Rodriguez, D. A., Rezende, F. S., ... Santana, M. D. (2021). Desertification risk assessment in Northeast Brazil: Current trends and future scenarios. Land Degradation & Development, 32(1), 224-240. https://doi.org/10.1002/ldr.3681
- Warren-Thomas, E., Ahrends, A., Wang, Y., Wang, M. M., Jones, J. P. (2023). Rubber's inclusion in zero-deforestation legislation is necessary but not sufficient to reduce impacts on biodiversity. Conservation Letters, e12967. https://doi.org/10.1111/conl.12967
- Wedeux, B., Schulmeister-Oldenhove, A. (2021). Stepping up? The continuing impact of EU consumption on nature worldwide. Available at:

https://www.wwf.eu/?2965416/Stepping-up-The-continuing-impact-of-EUconsumption-on-nature (accessed on September 8th, 2023)

- West, T. A., Rausch, L., Munger, J., Gibbs, H. K. (2022). Protected areas still used to produce Brazil's cattle. Conservation Letters, 15(6), e12916. https://doi.org/10.1111/conl.12916
- Wheeler, C. E., Omeja, P. A., Chapman, C. A., Glipin, M., Tumwesigye, C., Lewis, S. L. (2016). Carbon sequestration and biodiversity following 18 years of active tropical forest restoration. Forest ecology and management, 373, 44-55. https://doi.org/10.1016/j.foreco.2016.04.025
- Wicke, B., Sikkema, R., Dornburg, V., Faaij, A. (2011). Exploring land use changes and the role of palm oil production in Indonesia and Malaysia. Land use policy, 28(1), 193-206. https://doi.org/10.1016/j.landusepol.2010.06.001
- Willer, H., Sampson, G., Larrea, C., Schlatter, B., Bermudez, S., Dang, T. D., ... Meier, C. (2022). The State of Sustainable Markets 2022: Statistics and Emerging Trends. International Trade Centre. Available at: https://intracen.org/resources/publications/sustainability-standardsemerging-trends-executive-summary (accessed on September 8th, 2023)
- Wolf, C., Levi, T., Ripple, W. J., Zárrate-Charry, D. A., Betts, M. G. (2021). A forest loss report card for the world's protected areas. Nature ecology & evolution, 5(4), 520-529. https://doi.org/10.1038/s41559-021-01389-0
- Wolff, S., Schweinle, J. (2022). Effectiveness and Economic Viability of Forest Certification: A Systematic Review. Forests, 13(5), 798. https://doi.org/10.3390/F13050798/S1
- WRI (2023). Indicators of Forest Designation. Protected Forests. Available at: https://research.wri.org/gfr/forest-designation-indicators/protected-forests (accessed on September 8th, 2023)
- WWF (2016). Slow Road to Sustainability. Available at: https://wwf.panda.org/wwf_news/?269970/WWF%5Freport%5Fslow%5Fr oad%5Fto%5Fsustainability (accessed on September 8th, 2023)
- Wyatt, S., Teitelbaum, S. (2020). Certifying a state forestry agency in Quebec: Complementarity and conflict around government responsibilities, indigenous rights, and certification of the state as forest manager. Regulation & Governance, 14(3), 551–567. https://doi.org/10.1111/REGO.12229
- Xin, Y., Sun, L., Hansen, M. C. (2022). Oil palm reconciliation in Indonesia: Balancing rising demand and environmental conservation towards 2050. Journal of Cleaner Production, 380, 135087. https://doi.org/10.1016/j.jclepro.2022.135087
- Xu, Y., Yu, L., Ciais, P., Li, W., Santoro, M., Yang, H., Gong, P. (2022). Recent expansion of oil palm plantations into carbon-rich forests. Nature Sustainability, 5(7), 574-577. https://doi.org/10.1038/s41893-022-00872-1

- Zaks, D. P. M., Barford, C. C., Ramankutty, N., Foley, J. A. (2009). Producer and consumer responsibility for greenhouse gas emissions from agricultural production—a perspective from the Brazilian Amazon. Environmental Research Letters, 4(4), 044010. https://doi.org/10.1088/1748-9326/4/4/044010
- Zhunusova, E., Ahimbisibwe, V., Sen, L. T. H., Sadeghi, A., Toledo-Aceves, T., Kabwe, G., Günter, S. (2022). Potential impacts of the proposed EU regulation on deforestation-free supply chains on smallholders, indigenous peoples, and local communities in producer countries outside the EU. Forest Policy and Economics, 143, 102817. https://doi.org/10.1016/J.FORPOL.2022.102817
- zu Ermgassen E. K. H. J., Lima, M. G. B., Bellfield, H., Dontenville, A., Gardner, T., Godar, J. ... Meyfroidt, P. (2022). Addressing indirect sourcing in zero deforestation commodity supply chains. Science Advances, 8, eabn3132. https://doi.org/10.1126/sciadv.abn3132
- zu Ermgassen, E. K., Ayre, B., Godar, J., Lima, M. G. B., Bauch, S., Garrett, R., ... Gardner, T. (2020b). Using supply chain data to monitor zero deforestation commitments: an assessment of progress in the Brazilian soy sector. Environmental Research Letters, 15(3), 035003. https://doi.org/10.1088/1748-9326/ab6497
- zu Ermgassen, E. K., Godar, J., Lathuillière, M. J., Löfgren, P., Gardner, T., Vasconcelos, A., Meyfroidt, P. (2020a). The origin, supply chain, and deforestation risk of Brazil's beef exports. Proceedings of the National Academy of Sciences, 117(50), 31770-31779. https://www.pnas.org/cgi/doi/10.1073/pnas.2003270117
- zu Ermgassen, E. K., Lima, M. G. B., Bellfield, H., Dontenville, A., Gardner, T., Godar, J., ... Szantoi, Z. (2021). Addressing indirect sourcing in zero deforestation commodity supply chains. agriRxiv, (2022), 20210399227. https://doi.org/10.31220/agriRxiv.2021.00085

Web sites

Fairtrade International https://www.fairtrade.net/

Forest Stewardship Council (FSC) <u>https://fsc.org/en</u>

ISEAL https://www.isealalliance.org/

Rainforest Alliance https://www.rainforest-alliance.org/

Roundtable on Sustainable Palm Oil (RSPO) https://rspo.org/

Round Table on Responsible Soy Association (RTRS) <u>https://responsiblesoy.org/</u>

Annexes

Annex 1 – List of commodities and products covered by the European Union Regulation on deforestation-free products

Relevant commodity	Relevant products
Cattle	0102 21, 0102 29 Live cattle
	ex 0201 Meat of cattle, fresh or chilled
	ex 0202 Meat of cattle, frozen
	ex 0206 10 Edible offal of cattle, fresh or chilled
	ex 0206 22 Edible cattle livers, frozen
	ex 0206 29 Edible cattle offal (excluding tongues and livers), frozen
	ex 1602 50 Other prepared or preserved meat, meat offal, blood, of cattle
	ex 4101 Raw hides and skins of cattle (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment- dressed or further prepared), whether or not dehaired or split
	ex 4104 Tanned or crust hides and skins of cattle, without hair on, whether or not split, but not further prepared
	ex 4107 Leather of cattle, further prepared after tanning or crusting, including parchment dressed leather, without hair on, whether or not split, other than leather of heading 4114
Сосоа	1801 Cocoa beans, whole or broken, raw or roasted
	1802 Cocoa shells, husks, skins and other cocoa waste
	1803 Cocoa paste, whether or not defatted
	1804 Cocoa butter, fat and oil
	1805 Cocoa powder, not containing added sugar or other sweetening matter
	1806 Chocolate and other food preparations containing cocoa
Coffee	0901 Coffee, whether or not roasted or decaffeinated; coffee husks and skins; coffee substitutes containing coffee in any proportion

Relevant commodity	Relevant products		
Oil palm	1207 10 Palm nuts and kernels		
	1511 Palm oil and its fractions, whether or not refined, but not chemically modified		
	1513 21 Crude palm kernel and babassu oil and fractions thereof, whether or not refined, but not chemically modified		
	1513 29 Palm kernel and babassu oil and their fractions, whether or not refined, but not chemically modified (excluding crude oil)		
	2306 60 Oilcake and other solid residues of palm nuts or kernels, whether or not ground or in the form of pellets, resulting from the extraction of palm nut or kernel fats or oils		
	ex 2905 45 Glycerol, with a purity of 95 % or more (calculated on the weight of the dry product)		
	2915 70 Palmitic acid, stearic acid, their salts and esters		
	2915 90 Saturated acyclic monocarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives (excluding formic acid, acetic acid, mono-, di- or trichloroacetic acids, propionic acid, butanoic acids, pentanoic acids, palmitic acid, stearic acid, their salts and esters, and acetic anhydride)		
	3823 11 Stearic acid, industrial		
	3823 12 Oleic acid, industrial		
	3823 19 Industrial monocarboxylic fatty acids; acid oils from refining (excluding stearic acid, oleic acid and tall oil fatty acids)		
	3823 70 Industrial fatty alcohols		
Rubber	4001 Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary forms or in plates, sheets or strip		
	ex 4005 Compounded rubber, unvulcanised, in primary forms or in plates, sheets or strip		
	ex 4006 Unvulcanised rubber in other forms (e.g. rods, tubes and profile shapes) and articles (e.g. discs and rings)		
	ex 4007 Vulcanised rubber thread and cord		
	ex 4008 Plates, sheets, strips, rods and profile shapes, of vulcanised rubber other than hard rubber		
	ex 4010 Conveyer or transmission belts or belting, of vulcanised rubber		
	ex 4011 New pneumatic tyres, of rubber		
	ex 4012 Retreaded or used pneumatic tyres of rubber; solid or cushion tyres, tyre treads and tyre flaps, of rubber		
	ex 4013 Inner tubes, of rubber		

Relevant commodity	Relevant products		
	ex 4015 Articles of apparel and clothing accessories (including gloves, mittens and mitts), for		
	all purposes, of vulcanised rubber other than hard rubber		
	ex 4016 Other articles of vulcanised rubber other than hard rubber, not elsewhere specified in chapter 40		
	ex 4017 Hard rubber (e.g. ebonite) in all forms including waste and scrap; articles of hard rubber		
Soya	1201 Soya beans, whether or not broken		
	1208 10 Soya bean flour and meal		
	1507 Soya-bean oil and its fractions, whether or not refined, but not chemically modified		
	2304 Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting from the extraction of soya-bean oil		
Wood	4401 Fuel wood, in logs, in billets, in twigs, in faggots or in similar forms; wood in chips or particles; sawdust and wood waste and scrap, whether or not agglomerated in logs, briquettes, pellets or similar forms		
	4402 Wood charcoal (including shell or nut charcoal), whether or not agglomerated		
	4403 Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared		
	4404 Hoopwood; split poles; piles, pickets and stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent or otherwise worked, suitable for the manufacture of walking sticks, umbrellas, tool handles or the like; chipwood and the like		
	4405 Wood wool; wood flour		
	4406 Railway or tramway sleepers (cross-ties) of wood		
	4407 Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm		
	4408 Sheets for veneering (including those obtained by slicing laminated wood), for plywood or for other similar laminated wood and other wood, sawn lengthwise, sliced or peeled, whether or not planed, sanded, spliced or end-jointed, of a thickness not exceeding 6 mm		
	4409 Wood (including strips and friezes for parquet flooring, not assembled) continuously shaped (tongued, grooved, rebated, chamfered, V-jointed, beaded, moulded, rounded or the like) along any of its edges, ends or faces, whether or not planed, sanded or end-jointed		

Relevant commodity	Relevant products		
	4410 Particle board, oriented strand board (OSB) and similar board (for example, waferboard) of wood or other ligneous materials, whether or not agglomerated with resins or other organic binding substances		
	4411 Fibreboard of wood or other ligneous materials, whether or not bonded with resins or other organic substances		
	4412 Plywood, veneered panels and similar laminated wood		
	4413 Densified wood, in blocks, plates, strips or profile shapes		
	4414 Wooden frames for paintings, photographs, mirrors or similar objects		
	4415 Packing cases, boxes, crates, drums and similar packings, of wood; cable-drums of wood; pallets, box pallets and other load boards, of wood;		
	pallet collars of wood		
	(not including packing material used exclusively as packing material to support, protect or carry another product placed on the market)		
	4416 Casks, barrels, vats, tubs and other coopers' products and parts thereof, of wood, including staves		
	4417 Tools, tool bodies, tool handles, broom or brush bodies and handles, of wood; boot or shoe lasts and trees, of wood		
	4418 Builders' joinery and carpentry of wood, including cellular wood panels, assembled flooring panels, shingles and shakes		
	4419 Tableware and kitchenware, of wood		
	4420 Wood marquetry and inlaid wood; caskets and cases for jewellery or cutlery, and similar articles, of wood; statuettes and other ornaments, of wood; wooden articles of furniture not falling in Chapter 94		
	4421 Other articles of wood		
	Pulp and paper of Chapters 47 and 48 of the Combined Nomenclature, with the exception of bamboo-based and recovered (waste and scrap) products		
	ex 49 Printed books, newspapers, pictures and other products of the printing industry, manuscripts, typescripts and plans, of paper		
	ex 9401 Seats (other than those of heading 9402), whether or not convertible into beds, and parts thereof, of wood		
	9403 30, 9403 40, 9403 50, 9403 60 and 9403 91 Wooden furniture, and parts thereof		
	9406 10 Prefabricated buildings of wood		
Source: European Com	mission (2023a). The list follows the nomenclature from the Council Regulation (EEC) No 2658/87.		

Annex 2 – Assessment framework

Principle and criterion	Indicator	Verifiers/Guidelines
Principle A. Requ	irements that commodities an	d products are deforestation-free and produced in accordance with legislation
A.1 Requirements for deforestation- free commodities and products	A.1.1 The scheme presents a clear prohibition of deforestation and forest degradation	 Deforestation-free means: (a) that the relevant products contain, have been fed with or have been made using, relevant commodities that were produced on land that has not been subject to deforestation after 31st December 2020, and (b) in the case of relevant products that contain or have been made using wood, that the wood has been harvested from the forest without inducing forest degradation after 31st December 2020. Thus, the scheme shall present a clear prohibition of deforestation (or other equivalent prohibition that incorporates deforestation, e.g., prohibition of all natural ecosystem conversion for agriculture) and, when applicable, forest degradation. Note that the EUDR does not include any exceptions, such deforestation conducted legally, or agricultural land implemented on area deforested by natural events.
	A.1.2 The definitions of forest, deforestation, and forest degradation match or encompass the definitions from the regulation	 As presented previously, the requirement for deforestation-free commodities and products is built on the concepts of deforestation and forest degradation: (a) forest means land spanning more than 0.5 hectares with trees higher than 5 metres and a canopy cover of more than 10%, or trees able to reach those thresholds in situ, excluding land that is predominantly under agricultural or urban land use. (b) deforestation means the conversion of forest to agricultural use, whether human induced or not. (c) forest degradation means structural changes to forest cover, taking the form of the conversion of: (a) primary forests or naturally regenerating forests. Thus, besides presenting the prohibition of deforestation and forest degradation, it is important that these concepts match the concept adopted by the EUDR to assure compliance with it. Some other terms are further defined in the EUDR if further analysis is necessary (e.g., agricultural use, primary forest, plantation forest, plantation forest).
	A.1.3 The scheme presents a cut-off date that is equal or previous to December 31,	December 31, 2020, is defined as the cut-off date for compliance with deforestation-free requirements. This means that relevant commodities and products shall not originate from land subjected to deforestation or forest degradation after this date. Schemes shall present a clear cut-off date for

defore: the reg eme presents a Releva ent for concer ccordance with short. gislation in the Countr uction commo	station and, when applicable, forest degradation, that is equal or previous to the one adopted by julation. Int legislation of the country of production means the laws applicable in the country of production ning the legal status of the area of production. This will be addressed as legality requirements in v of production means the country or territory where the relevant commodity or the relevant
eme presents a Releva ent for concer ccordance with short. gislation in the Countr uction commo	Int legislation of the country of production means the laws applicable in the country of production ning the legal status of the area of production. This will be addressed as legality requirements in y of production means the country or territory where the relevant commodity or the relevant
	odity used in the production of, or contained in, a relevant product was produced.
icable Releva mpasses all (a) specified in the (b) (c) (d) (e) (f) (g) (h) Thus, e require can inc adaptir (a) (b) (c) (d) (c)	Int legislation considers: I and use rights; environmental protection; forest-related rules, including forest management and biodiversity conservation, where directly related to wood harvesting; third parties' rights; I abour rights; I abour rights; the principle of free, prior and informed consent (FPIC); and tax, anti-corruption, trade and customs regulations. even when the previous indicator is covered, the specificity of the spheres of legislation that are red by the standards should also be investigated. Evidence of requirements for relevant legislation clude, but are not limited to, the following topics (based on international documents, as well as ng the contents adopted by Preferred by Nature, 2021): I and use rights: land tenure rights, including customary rights as well as management rights; environmental protection: pollution control (air, water, soil), use of pesticides/herbicides, soil erosion, waste management, assessment of environmental impacts, sustainable use of resources, protected areas, biodiversity; forest-related rules: concession licenses, management and harvesting planning, harvesting permits, timber harvesting regulations, protected sites and species; third parties' rights: I abour rights: e.g. as set out in the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work; buman rights protected area Rights at
	duction commo licable Releva compasses all (a) specified in the (b) (c) (d) (e) (f) (g) (h) Thus, e require can ind adaptir (a) (b) (c) (c) (d) (e) (f) (g) (h) Thus, e require (c) (d) (e) (f) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (g) (h) (f) (h) (f) (g) (h) (f) (h) (f) (g) (h) (f) (h) (f) (g) (h) (f) (g) (h) (f) (h) (f) (g) (h) (f) (h) (f) (h) (f) (g) (h) (f) (f) (g) (h) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f

Principle and criterion	Indicator	Verifiers/Guidelines
	A.2.3 The scheme requires	 Economic Social and Cultural Rights (ICESCR), and the International Covenant on Civil and Political Rights (ICCPR); (g) the principle of free, prior and informed consent (FPIC): as set out in the United Nations Declaration on the Rights of Indigenous Peoples; (h) tax, anti-corruption, trade and customs regulations: classification of commodities and products, offshore trading, export/import licenses, tax payment.
	that subcontractors operate in accordance with legislation	production or processing of the commodities and products. To assure that commodities and products are in fact produced in accordance with legislation, subcontractors, or equivalent, should also be checked against the legality requirements laid down in A.2.1 and A.2.2.
Principle B. Req	uirements for information trace	ability and risk management in the supply chain
B.1 Information traceability	B.1.1 The scheme requires a mandatory traceability system	ISO 9000:2015 (Quality management systems – Fundamental and vocabulary) defines traceability the ability to trace the history, application, use and location of an object. Thus, this indicator addresses the presence of a mandatory traceability system, usually under the terminology of chain of custody standards, that allows tracking product information from production to consumption.
	B.1.2 The scheme requires that information on production and commercial transactions are recorded and kept for at least five years	 Besides the previously mentioned information that operators need to collect to address deforestation-free and legality requirements, operators also need to collect, organise and keep for five years the following information relating to the relevant commodities or products: (a) a description, including the trade name and type of the relevant products as well as, in the case of relevant products that contain or have been made using wood, the common name of the species and their full scientific name; (b) the quantity of the relevant products; (c) the country of production and, where relevant, parts thereof; (d) the geolocation of all plots of land where the relevant commodities that the relevant product contains, or has been made using, were produced, as well as the date or time range of production; where a relevant product contains or has been made with relevant commodities produced on different plots of land, the geolocation of all different plots of land shall be included; (e) the name, postal address and email address of any business or person from whom they have been supplied with the relevant products;

Principle and criterion	Indicator	Verifiers/Guidelines
B 2 Pick	B 2 1 The scheme provides	 Furthermore: (a) geolocation means the geographical location of a plot of land described by means of latitude and longitude coordinates corresponding to at least one latitude and one longitude point and using at least six decimal digits; for plots of land of more than four hectares used for the production of the relevant commodities other than cattle, this shall be provided using polygons with sufficient latitude and longitude points to describe the perimeter of each plot of land; (b) plot of land means land within a single real-estate property, as recognised by the law of the country of production, which enjoys sufficiently homogeneous conditions to allow an evaluation of the aggregate level of risk of deforestation and forest degradation associated with relevant commodities produced on that land; Thus, the scheme should provide mechanisms to assure that the abovementioned information on production and commercial transactions are officially registered to assure traceability throughout the supply chain, as well as a record-keeping time at equal or higher than the one required in the regulation.
B.2 Risk management of supply chain	B.2.1 The scheme provides mechanisms to assure that standard-compliant material is segregated from other sources	including material verified by the scheme. To maintain the claims for products under the standard, the scheme must require that standard-compliant material is kept segregated from material of other sources throughout the supply chain. This shall include clear and effective measures that are documented and reviewed periodically to prevent material from other sources from entering the supply chain of standard-compliant material. The scheme should require the use of appropriate inventory methods and documented controls to ensure segregation.
	B.2.2 The scheme requires that material from other sources is deforestation-free	Only applicable when mixing standard-compliant material with material from other sources is allowed. When mixing is allowed, the final product contains both material that complies standard requirements, as well as material from other sources, potentially non-compliant with the same requirements. In this case, the scheme shall require that the material from other sources entering the supply chain is compliant with the same deforestation-free requirements and guidelines laid down in items A.1. Thus, the requirements for material from other sources must be checked against indicators A.1.1, A.1.2 and A.1.3. These could be covered in a separate standard or integrated in a due diligence requirement for materials from other sources, for example.
	B.2.3 The scheme requires that material from other	Only applicable when mixing standard-compliant material with material from other sources is allowed. In the same way, the scheme shall require that material from other sources entering the supply chain is

Principle and criterion	Indicator	Verifiers/Guidelines
	sources is produced in accordance with the relevant legislation in the country of production	compliant with the same legality requirements and guidelines laid down in items A.2. Thus, the requirements for material from other sources must be checked against indicators A.2.1, A.2.2 and A.2.3. These could be covered in a separate standard or integrated in a due diligence requirement for material from other sources, for example.
	B.2.4 The scheme requires adequate measures for risk assessment and risk mitigation	 To assure that indicators B.2.3 and B.2.3 are met, beyond present requirements the scheme shall also present mechanisms to assure compliance. In this case, the scheme shall require that risk assessment and risk mitigation procedures are implemented. Although these procedures might encompass several aspects, here the focus will be to on deforestation-free and legality concerns to match requirements from the regulation. Relevant risk assessment measures include: (a) the deforestation risk of the relevant country of production or parts thereof; (b) the presence of forests in the country of production or parts thereof; (c) the presence of indigenous peoples in the country of production or parts thereof; (d) the consultation and cooperation in good faith with indigenous peoples in the country of production or parts thereof; (e) the existence of duly reasoned claims by indigenous peoples based on objective and verifiable information regarding the use or ownership of the area used for the purpose of producing the relevant commodity; (f) prevalence of deforestation or forest degradation in the country of production or parts thereof; (g) the source, reliability, validity, and links to other available documentation of the information collected to evaluate compliance with deforestation-free and legality requirements; (h) concerns in relation to the country of production and origin or parts thereof, such as level of corruption, prevalence of document and data falsification, lack of law enforcement, violations of international human rights, armed conflict or presence of processing of the relevant products, in particular difficulties in connecting relevant products to the plot of land where the relevant commodities were produced; (i) the risk of mixing with relevant products of unknown origin or produced in areas where deforestation to a risk that the relevant products are non-compliant; (i) complementary info
		Relevant risk mitigation measures include:

Principle and criterion	Indicator	Verifiers/Guidelines
		 (a) requiring additional information, data or documents; (b) carrying out independent surveys or audits; (c) taking other measures pertaining to information collected to evaluate compliance with deforestation-free and legality requirements.
Principle C. Sche	eme structure, assurance syste	em and transparency
C.1 Consistency between international and national level standards	C.1.1 The scheme presents consistency between international and national standards	Only applicable for schemes that are locally adapted or internationally endorsed. Some schemes have international standards that are locally adapted. During this process, requirements might suffer some level of alteration. This aspect is also very relevant for schemes that are developed locally and endorsed internationally. Thus, it is important that schemes present mechanisms that assure consistency between different levels, so social and environmental features attached to the scheme are equivalent for all verified parties, especially those features related to the EUDR requirements. These mechanisms can be related to guidelines on the local adoption of the standards or requirements for endorsement. Evidence can also be collected from comparing international and national versions for the requirements laid down in Principles A and B of this framework.
C.2 Requirements for compliance assurance by verified parties	C.2.1 The scheme requires that verified parties have adequate policies, controls, and procedures for compliance assurance	The scheme must require that verified parties have adequate internal policies, controls and procedures to assure compliance with the standards. Thus, investigation should assess if schemes require an affective assurance of compliance with the standard claimed by the organization or farmer/groups. Requirements include, but are not limited to, model risk management practices, reporting, record-keeping, internal control and compliance management, appointment of a compliance officer at management level, independent audit function to check the internal policies, controls and procedures. It should also be required the existence of personnel with sufficient qualifications and competencies to consistently and effectively implement scheme requirements. These policies shall be periodically reviewed. Organization means a company, corporation, firm, enterprise, authority or institution, located inside or outside the community, or part or combination thereof, whether incorporated or not, public or private, which has its own functions and administration. This definition is adopted from EU Regulation No 1221/2009 (eco-management and audit scheme - EMAS).
	C.2.2 All documentation for compliance with the scheme must be kept for at least five	When it comes specifically to record-keeping, all evidence used to demonstrate compliance should be kept for at least five years. With this, evidence for compliance with Principles A and B are kept and can be accessed when needed.

Principle and criterion	Indicator	Verifiers/Guidelines
	years	
C.3 Requirements for conformity assessment	C.3.1 Non-compliance with deforestation-free and legality requirements prevents compliant status	Even when the scheme fully covers criteria A.1 and A.2, it is essential that a non-compliance with any of these requirements prevents parties to be considered as standard-compliant. This could mean that parties are not eligible, or identification of non-compliance leads to suspension/withdraw of the standard-compliant status. Otherwise, commodities and products might be claimed as standard-compliant and yet not be deforestation-free and legally produced. For examples, for certification schemes this would mean that these are faced as mean major non-compliances, and parties are non-eligible for certification, or certificate is suspended.
	C.3.2 Conformity assessment is conducted by a legal, impartial, and qualified organization	 The scheme must make clear what are the requirements that a third-party conformity assessment body must meet to be suited for performing audits. The ISO/IEC 17065:2012 standard (Conformity assessment — Requirements for bodies certifying products, processes and services) and the ISO/IEC 17021-1:2015 standard (Conformity assessment — Requirements for bodies providing audit and certification of management systems) can be used as the baseline. For these aims of this indicator and consistently with ISO/IEC 17065:2012: a) conformity assessment bodies should be required to be a legal entity, or a defined part of a legal entity, formally registered as such in the country of operation, which is legally responsible for all its certification activities. b) conformity assessment bodies should be required to demonstrate that personnel involved in the certification process are competent to perform their functions. ISO 19011:2018 (Guidelines for auditing management systems) defines competence as the demonstrated personal attributes and demonstrated ability to apply knowledge and skills. c) conformity assessment bodies should be required to operate in impartiality, identifying and managing risks on ongoing basis. ISO/IEC 17065:2012 defines impartiality as the presence of objectivity, which in turn means that conflicts of interest do not exist, or are resolved so as not to adversely influence the activities of the body. Furthermore, basic definitions to be considered, according to ISO/IEC 17000:2020 (Conformity assessment — Vocabulary and general principles), are: (a) conformity assessment is the process of demonstrating that requirements specified in these standards are fulfilled is called. (b) audit is the process for obtaining relevant information about an object of conformity assessment
		 audit is the process for obtaining relevant mormation about an object of conformity assessment and evaluating it objectively to determine the extent to which specified requirements are fulfilled. (c) conformity assessment bodies are bodies that perform conformity assessment activities,

Principle and criterion	Indicator	Verifiers/Guidelines
		excluding accreditation. Besides internal controls conducted by the verified parties, it is also important to have periodic third-party checks to assure compliance. Drawing on EU Regulation No 607/2012 (Implementing Regulation for the EUTR), checks by third-parties shall be conducted at regular intervals no longer than 12 months.
	C.3.3 The scheme requires periodic checks or reassessment of verified parties	Besides internal controls conducted by the verified parties, it is also important to have periodic third- party checks to assure compliance. Drawing on EU Regulation No 607/2012 (Implementing Regulation for the EUTR), checks by third- parties shall be conducted at regular intervals no longer than 12 months.
	C.3.4 Conformity assessment has minimum requirements for information sources and sampling strategies for assuring effective auditing	Several sources can provide evidence to conformity assessment. The main sources of evidence used in audits include document analysis, field inspection and stakeholder consultation. Thus, a combination of all of them is necessary to provide enough evidence on the compliance when it comes to Principles A and B. Moreover, because agricultural and forest production under schemes usually occupy large areas, it is customary to conduct on-site audits based on sampling. The scheme must assure robust sampling strategies for conducting audits, such as based on square footage or number of farms/facilities/forest management units.
	C.3.5 The scheme provides mechanisms to assure compliance by all members under a group verification	Only applicable when group verification is allowed. Group verification is proposed by some schemes an alternative to make standard-compliance accessible to smallholders. However, with more verified parties at play, the risk of non-compliance might increase. Thus, it is important that the scheme includes measures to assure compliance by all group members within the same scope. Evidence from this can be taken from the requirement of an effective group management, with clear objectives and responsibilities, as well as the strategy used for conformity assessment, such as sampling strategies.
C.4 Transparency and corruption	C.4.1 The scheme makes publicly available the full requirements for verified parties and conformity assessment bodies	It is essential that the public can have online access to which are the requirements that verified parties are being checked against, as well as the requirements for those organizations performing the audits.

Principle and criterion	Indicator	Verifiers/Guidelines
	C.4.2 The scheme makes publicly available the status of verified parties	Interested parties should have means to evaluate if a standard-compliant claim is valid. This could be achieved by making publicly available online a full and up-to-date list of verified parties, including their status as valid, expired, suspended etc. This could also be achieved through public online search by using the organization name, an individual code or an equivalent identifier, where up-to-date status can be checked by any person.
	C.4.3 The scheme makes publicly available a summary of audit reports that contains methodology and main findings, including non- compliances	It is not uncommon that standard-compliant status can be achieved without full compliance with all requirements because, to a certain extent, some non-compliances can usually be addressed after verification. Thus, it is essential that at least a summary of audit reports is publicly available online containing methodology and non-compliances found, so that interested parties can have access to information and verify if non-compliance with deforestation-free and legality requirements have been identified during audits.
	C.4.4 The scheme presents policies, controls, and procedures to identify and manage risk of corruption	Corruption, i.e., dishonest or fraudulent conduct, might lead to inadequate standard-compliance status. This conduct increases the risk that commodities and products are not deforestation-free and legal. The scheme should have anti-corruptions policies in place to identify and mitigate the risks of corrupt activities in the standard-setting organization, as well as in conformity assessment bodies and verified parties. These include channels and procedures for receiving and handling complaints.

Annex 3 – List of European Union countries

Austria	France	Malta
Belgium	Germany	Netherlands
Bulgaria	Greece	Poland
Croatia	Hungary	Portugal
Cyprus	Ireland	Romania
Czechia	Italy	Slovakia
Denmark	Latvia	Slovenia
Estonia	Lithuania	Spain
Finland	Luxembourg	Sweden

Source: European Union. Country Profiles. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles_en (accessed on September 8th, 2023)

Annex 4 – Full application of the assessment framework to Fairtrade International

Indicator	Evidence	Out	come Justification
A.1.1	FT SPO v2.5 3.2.31 NEW 2019* Protection of forests and vegetation (Core, Year 0) Your members do not cause deforestation and do not destroy vegetation in carbon storage ecosystems or protected areas. FT CP v1.4 B3.1.13 You must avoid negative impacts on protected areas and in areas with high conservation value within or outside the farm or production areas or from the date of application for certification. The areas that are used or converted to production of the Fairtrade crop must comply with national legislation in relation to agricultural land use (Core, Year 0) Negative impact refers to partial or complete destruction of the protected area or loss of the conservation value. FT HL v1.9 4.6.1 Conservation of protected areas (Core, Year 0) Your company avoids negative impacts on protected areas and in areas with high conservation value, within or outside the farm or production areas. The areas used or converted to production of the Fairtrade crop comply with national legislation in relation to agricultural land use. Negative impact refers to partial or complete destruction of the protected area or loss of the conservation value. FT COCOA v2.0 3.4.1 NEW 2024 Protection of forests and ecosystems (Core, Year 0) Your members did not cause deforestation or degradation in primary or secondary forests, protected areas and areas of High Conservation Value or High Carbon Storage to convert land into agricultural production area since 31st December 2018.	PC	The SPO standard presents a clear requirement that members do not cause deforestation. It is a core requirement to be complied with at the year 0. On the other hand, the CP standard does not present a clear requirement for no deforestation, but rather requires the avoidance of negative impacts on protected areas and in areas with HCV. The definition of negative impact would likely include deforestation, however the definitions of protected areas and areas with HCV do not cover all forests. The COCOA standard, which complements the SPO and the CP standards for cocoa producers and traders, presents a clear no deforestation requirement. The coffee standard makes no mention to deforestation. The HL standard follows the same approach of the CP standard. Thus, commodities under the SPO standard would be in line with the EUDR, while only cocoa would in the case of CP, i.e., a no deforestation requirement is not presented for coffee under the CP standard. Thus, this indicator was classified as PC.
	3.2.31 "Protection of forests and vegetation".		
Indicator	Evidence	Outcome	Justification
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A.1.2	FT SPO v2.5 3.2.31 NEW 2019* Protection of forests and vegetation (Core, Year 0) Guidance: Deforestation is the conversion of forest to other land use or the permanent reduction of the tree canopy cover below the minimum 10 percent threshold (The Global Forest Resources Assessment, FAO, 2015). The following activities are not considered 'deforestation':	PC	The SPO and the COCOA standards define deforestation as the conversion of forest to other land use and thus encompasses the EUDR definition, which specifies only conversion to agriculture.
	 When a tree crop is replaced by another (for example cocoa, coffee or fruit tree); Tree management on agro-forestry or home-garden production systems. <u>FT_COCOA_v2.0</u> 3.4.1 NEW 2024 Protection of forests and ecosystems (Core, Year 0) Guidance: Same as above. 		On the other hand, the standards do not provide a definition for forest. The guidance for these requirements refers to FAO's Forest Resources Assessment to define deforestation. Although members can retrieve the definition of forest from the same document, this is not specified in the standard. Because of this gap, this indicator was considered as PC.
A.1.3	 <u>FT SPO v2.5</u> 3.2.31 NEW 2019* Protection of forests and vegetation (Core, Year 0) Requirements marked NEW 2019*: applicable from 1 July 2019 <u>FT COCOA v2.0</u> 3.4.1 NEW 2024 Protection of forests and ecosystems (Core, Year 0) Your members did not cause deforestation or degradation in primary or secondary forests, protected areas and areas of High Conservation Value or High Carbon Storage to convert land into agricultural production area since 31st December 2018. Please note that this requirement complements SPO Standard requirement 3.2.31 "Protection of forests and vegetation". 	PC	Requirement 3.2.31 was introduced in the last review of the SPO standard and it is marked as "NEW 2019*", which means that is it applicable from July 1 st , 2019. Thus, this would mean that producers are required to not cause deforestation after this date. In the COCOA standard, there is a clear cut-off date, which is December 31 st , 2018. As CP, HL and COFFEE standards do not present a no deforestation requirement, this cut- off date does not apply to all cases that are relevant for the EUDR. Thus, this indicator was considered as PC.
A.2.1	 <u>FT SPO v2.5</u> 1.1.6 NEW 2019* Compliance with national legislation (Core, Year 0) There are no indications that you or your members violate national legislation on the topics covered by this Standard. <u>FT CP v1.4</u> and <u>FT HL v1.9</u> Fairtrade International requires that registered producers and promoting bodies (for CP) and companies (for HL) always abide by national legislation, unless that 	PC	The SPO standard requires that there are no indications that members violate national legislation on the topics covered by the standard. Thus, the requirements are limited to the scope of the standard, which is not completely aligned with the definition of relevant legislation of the EUDR, as demonstrated in the next indicator.

Indicator	Evidence	Outcome	Justification
	legislation conflicts with internationally recognized standards and conventions, in which case the higher criteria prevail. However, if national legislation sets higher standards or ensures more favourable conditions for workers on an issue than Fairtrade International, then it prevails. The same applies to regional and sector-specific practices.		On the other hand, CP, HL and TRA standards do not present specific requirements for compliance with legislation. What they present is a statement in the beginning of the documents that organizations under the standards shall abide national legislation.
	Fairtrade International also requires that operators always abide by national legislation, on the topics covered by this standard, whenever the legislation sets higher requirements than this standard. The same applies to regional and sector-specific practices.		However, this is not translated into specific requirements in the body of the standards, which are the key to a conformity assessment. This is reinforced by the fact that the SPO standard contains such a requirement. Thus, this indicator was classified as PC.
A.2.2	FT SPO v2.5 1.1.7 NEW 2019* Land and water rights (Core, Year 0) If there are indications of conflicts of your members' legal and legitimate right to land, water use and land tenure, they are resolved responsibly and transparently before certification can be granted. In cases where land claims and disputes are on-going, there is evidence that a legal resolution process is active and is carried out by legal authorities in your country. This requirement is based on ILO Convention C169 (Indigenous and Tribal Peoples Convention), Part II and the "Voluntary Guidelines on the Responsible Governance of Tenure" as defined by the Committee on World Food Security-Food and Agricultural Organization (CFS-FAO) in May 2012 and the United Nations declaration on the rights of peasants and other people working in rural areas.	PC	The SPO standard presents a requirement for land use rights, as well as a series of requirements under the sections for environmental development and labour conditions. The Universal Declaration of Human Rights is mentioned in the section "4.3 Non- discrimination". No direct mention to items (d), (g) and (h) were identified. By considering requirement 1.1.6 (listed in the evidence for indicator 2.1 of this framework), national legislation addressing the topics covered by the standard must be complied with.
	3.2 Environmental Development (all sections and requirements; includes: environmental management, pest management and hazardous materials use, soil and water, biodiversity, waste, GMOs, climate change adaptation and mitigation.) 3.3 Labour Conditions (all sections and requirements; includes: freedom from discrimination, freedom from forced or compulsory labour, child labour and child protection, freedom of association and collective bargaining, conditions of employment, occupational health and safety.) Intent and scope: To ensure good working conditions for workers. Eairtrade International regards the core ILO conventions as the main		The CP standard presented a series of requirements for environmental development and labour conditions. The Universal Declaration of Human Rights is mentioned in the section "A.4.3 Non-discrimination". However, these requirements were not directly linked to legislation. No direct mention to items (a), (d), (g) and (h) were identified.

Indicator	Evidence	Outcome	Justification
	reference for good working conditions.		The HL standard presented a requirement for
	4.3 Non-Discrimination		legal land tenure, including the FPIC of local
	Intent: To prevent discrimination in organizations and to foster a more		communities, as well as a series of requirements
	inclusive membership within small-scale producer organizations.		under the sections for environmental
	Fairtrade International follows the Universal Declaration of Human Rights		development and labour conditions. The former
	on ending discrimination.		section is not directly linked to legislation, while
			the latter mentions national legislation in several
	<u>FT CP v1.4</u>		requirements. There is mention of human rights
	A 3.2 Environmental Development (all sections and requirements; includes:		(freedom from discrimination and freedom of
	environmental management, pest management, soil and water, waste, GMOs,		association). No direct mention to item (h) was
	biodiversity, energy and greenhouse gas emissions.)		identified.
	A 3.3 Labour Conditions (all sections and requirements; includes: freedom from		
	discrimination, freedom from forced or compulsory labour, child labour and child		The TRA standard sets requirements for
	protection.)		compliance with labour and environmental laws.
	Intent and scope: This section intends to ensure good working conditions		No direct mention to items (a), (d), (f), (g) and (h)
	for workers. Fairtrade International regards the core ILO conventions as		were identified. Although some of them might not
	the main reference for good working conditions.		be applicable to traders (e.g., land use rights),
	A 4.3 Non-Discrimination		some are clearly relevant (e.g., tax, anti-
	Intent and scope: Fairtrade International follows the Universal Declaration		corruption, trade and customs regulations).
	of Human Rights on ending discrimination.		
			Item (c) was not evaluated as it does not apply to
	<u>FT HL v1.9</u>		agricultural products.
	1.2.4 NEW 2014 Legal land tenure (Core, Year 0)		
	Your company has legal and legitimate right to land use and land tenure, and		Overall, some gaps were identified in all
	respects the land rights of local and indigenous peoples. Disputes on land are		standards. Therefore, this indicator was classified
	resolved responsibly and transparently before certification can be granted. In		as PC.
	cases where land claims and disputes are on-going, there is evidence that a legal		
	resolution process is active.		
	'Legitimate right to land use' means that all plantations under the same company		
	name have appropriate official documentation demonstrating legal rights to the		
	land and are required to show either:		
	a. The absence of significant disputes on land use, tenure and access,		
	or;		
	b. The free, prior and informed consent of local communities regarding		
	the land.		

Indicator	Evidence	Outcome	Justification
	 3 Labour conditions (all sections and requirements; includes: freedom from discrimination, freedom from forced or compulsory labour, child labour and child protection, freedom of association and collective bargaining, conditions of employment, occupational health and safety). Intent and scope: This section intends to ensure decent working conditions. Fairtrade International regards the 1998 ILO Declaration on Fundamental Principles and Rights at Work, as well as all other applicable ILO Conventions as references for decent working conditions. 4. Environmental Development (all sections and requirements; - includes: environmental management, pest management, soil and water, waste, GMOs, biodiversity, energy and greenhouse gas emissions.) 		
	FT TRADER v2.0 3.1.1 NEW 2017 Compliance with labour law and ILO conventions (Core) You are aware of the applicable labour laws in your country and of the fundamental ILO conventions and there are no indications that you violate any of them. 3.2.1 NEW 2017 Compliance with environmental law (Core) You are aware of the applicable environmental laws in your country and there are no indications that you violate any of them.		
A.2.3	 <u>FT SPO v2.5</u> 1.1.1 Accepting audits (Core, Year 0) You accept announced and unannounced audits of your premises and subcontracted premises and provide any information in relation to Fairtrade Standards at the request of the certification body. 3.3 Labour Conditions - all topics are covered by the following statement: This section is applicable to all workers employed by you and by the members of your organization. This section applies to workers employed directly or indirectly (subcontracted). 3.3.21 Subcontracted workers (Core, Year 0) If you or your members employ migrant or seasonal workers through a contracting agency or person, you put effective measures in place to ensure that their hiring and working conditions also comply with this Standard. 	PC	The SPO, CP and HL standards include subcontracted premises in the scope of announced and unannounced audits. Throughout the requirements for labour conditions, all sections are stated as applicable to workers employed directly or indirectly (subcontracted). Beyond requirements for labour conditions, no mention of extending other requirements to subcontractors was identified (e.g., requiring that subcontractors comply with the same environmental requirements). On the other hand, the TRA standard requires
	<u>FT CP v1.4</u>		standard, accept audits, and do regular reporting.

Indicator	Evidence	Outcome	Justification
	A1.1.1 You must accept audits of your premises and subcontracted premises and provide information at the certification body's request (Core, Year 0) A 3.3 Labour Conditions - all topics are covered by the following statement: This section is applicable to all workers employed by you and by the registered producers. This section applies to workers employed directly or indirectly (subcontracted).		In this context, subcontractors are defined as an individual or company that provides processing and/or manufacturing services on behalf of an operator but does not take legal ownership of the product.
	 FT HL v1.9 1.1.1 Accepting audits (Core, Year 0) Your company accepts announced and unannounced audits of your premises and contractually requires subcontracted premises to also accept audits of their premises. You provide any information in relation to Fairtrade Standards at the request of the certification body. 3.5.24 Selection of subcontractors (Core, Year 1) Your company may only subcontract workers for non-regular work, or in special circumstances, if you are unable to contract directly. When subcontracting does take place, the following rules are followed as closely as possible: Where a subcontractor is to be used, you as management develop appropriate selection criteria to help decide on appointment. Prior to any signing of a contract with a subcontractor, your company has seen and approved its credentials. Subcontractors are able to provide services that comply with national legislation, ILO Convention 181 (Private Employment Agencies Convention) and with specific criteria in this Standard in chapter 3 on Labour Conditions regarding wages, contracts and working hours (req. 3.5.1, 3.5.8, 3.5.9), Freedom of Association (req. 3.4.1, 3.4.7), forced and bonded labour (req. 3.2.1), child labour (req. 3.3.1, 3.3.2), discrimination (3.1.1) and health and safety (3.6.1). In addition, the subcontractor commits by contract between your company and the contractor to comply with these requirements and agrees to be subject to audits if found appropriate by the certification body. 		This definition of subcontractor (which matches the one adopted by this framework) was not identified in the SPO, CP and HL standards. Further evidence is necessary to understand the role of subcontractors in the context of SPO and CP standards, as they focus on small scale producers, i.e., farmers who manage their production activity mainly with family workforce. This might exclude subcontractors under the same definition of the TRA standard. Nevertheless, with no evidence that all requirements are applied to subcontractors for all standards, this indicator was classified as PC.
	<i>FT_TRA_v1.7</i> 1.1.3 Registration and contracts with additional entities (Core) You contractually require that the additional entities that you work with comply with this standard, accept audits and do regular reporting, as requested by the		

Indicator	Evidence	Outcome	Justification
	certification body. When you start working with a new additional entity, you register the new additional entity with the certification body. Guidance: Additional entities do not take legal ownership of the Fairtrade product. Additional entities include subcontracted companies, affiliated branches etc. The certification body will determine which requirements in this standard are applicable to your additional entities and will only audit those requirements.		
B.1.1	<u>FT SPO v2.5</u> 2.1 Traceability (all sections and requirements) <u>FT CP v1.4</u> A 2.1 Traceability (all sections and requirements)	FC	All standards have traceability systems in place, which allow traceability of a Fairtrade product along the supply chain, from production to consumption.
	<u><i>FT HL v1.9</i></u> 5.1 Traceability (all sections and requirements)		Overall, this indicator was classified as fully covered.
_	<u>FT TRA v1.7</u> 2.1 Traceability (all sections and requirements)		Fairtrade applies rules of physical segregation for most products. However, cocoa, cane sugar, juice or tea can be managed under MB rules.
B.1.2	 FT SPO v2.5 2.1.2 Documenting product flow (Core, Year 0) You write down the product flow from members to the first buyer. Guidance: The product flow should include a description of the collection process from your members and the transfer to your buyers. 2.1.3 Record-keeping of products sourced from members (Core, Year 0) You keep records of products sourced from members. Records indicate the name of the individual member, date of purchase, product name, volume and the price received by the member. 2.1.4 Documentation of Eairtrade products (Core, Year 0) 	PC	The SPO, CP and HL standards all require the registration of purchases and sales of Fairtrade products, documenting product information up to the first buyer. The TRA standard requires documented traceability, and all traders must register information of Fairtrade products in purchases and sales documents, so the CB can trace back information on the traders, dates, quantities etc.
	 When you sell a Fairtrade products (core, rear o) When you sell a Fairtrade product you identify clearly in the related documents (e.g. invoices, delivery notes) that the product is sourced and traded on Fairtrade terms. 2.1.5 Record-keeping of Fairtrade sales (Core, Year 0) You keep records of all your Fairtrade sales. Those records indicate the volume sold, the name of the buyer and its certification ID number, the date of the 		All standards also require record-keeping, with relevant product information. However, it is not clear for how long these records must be kept. The TRA standard requires the registration of the FLO-ID in the sales documentation. This ID, a unique customer identification number which is

Indicator	Evidence	Outcome	Justification
	transaction and a reference to sales documents in such a way that the certification body is able to link these records with the corresponding sales documents.		assigned to all Fairtrade operators by the CE could be used to identify the country of origin of the certificate.
	If you process Fairtrade products you keep records that specify the amount of product before and after processing.		The scheme does not provide mechanisms t allow tracing back Fairtrade products to the pla of land where they were produced, nor the tim
	<u>FT CP v1.4</u> A.2.1.2 You must write down the product flow from the registered producers to you. (Core, Year 0)		range of production. The date of purchase from members seems to be the first entrance that registered.
	Guidance: The product flow should include a description of the collection process		-
	A.2.1.3 You must keep records of products sourced from the registered producers. Records must indicate the name of the individual producer, date of purchase, product name, volume and the price received by the member. (Core, Year 0)		Thus, some relevant gaps were identified, ar this indicator was classified as PC.
	A.2.1.4 When you sell a Fairtrade product you must indicate clearly in the sales documents (e.g., invoices, delivery notes) that this product is Fairtrade. (Core, Year 0)		
	A.2.1.5 You must keep records of all your Fairtrade sales. Those records must indicate the volume sold, the name of the buyer and its Fairtrade International ID number, the date of the transaction and a reference to sales documents in such a way that the certification body is able to link these records with the corresponding sales documents. (Core, Year 0)		
	A.2.1.6 If you process Fairtrade products, you must keep records that specify the amount of product before and after processing. (Core, Year 0)		
	<u>FT HL v1.9</u> 5.1.1 Identification of Egirtrade products (Core, Year 0)		
	When your company sells a Fairtrade product it identifies clearly in the related		
	documents such as invoices and delivery notes that the product is Fairtrade.		
	5.1.2 Record-keeping of Fairfrade sales (Core, Year U) Your company keeps records of all its Fairfrade sales. Those records indicate the		
	volume sold, the name of the buyer and its Fairtrade International ID number, the		
	date of the transaction and a reference to sales documents in such a way that the		

Evidence	Outcome	Justification
certification body is able to link these records with the corresponding sales documents. 5.1.3 Record-keeping for processing Fairtrade products (Core, Year 0) If your company processes Fairtrade products you keep records that specify the amount of product before and after processing.		
 FT TRA v1.7 2.1.1 Identification of Fairtrade products (Core) You clearly identify all Fairtrade products as Fairtrade in all purchase and sales documentation (e.g., invoices, delivery notes and purchase orders). You ensure that you and the certification body will be able to trace: the name and FLO-ID of the traders involved in a Fairtrade transaction; the applicable dates of the transaction; the quantities and physical form of the product when transacted (purchase and sale); and the payment of the Fairtrade price and Fairtrade Premium and prefinancing (where applicable). 2.1.2 Record-keeping (Core) You keep records of all entries, processing and sales of Fairtrade products. Records must allow the certification body to trace back from any given Fairtrade output to the Fairtrade inputs. 		
<u>FT COCOA v2.0</u> 2.1.9 Mass balance: like for like rule related to origin (Core) If you sell a final cocoa product as Fairtrade under mass balance, with a claim regarding a specific origin, then you have purchased the equivalent Fairtrade cocoa volume input from the same origin (as indicated in the purchase documentation).		
 FT SPO v2.5 2.1.1 Physical segregation of Fairtrade products (Core, Year 0) You only sell as Fairtrade those products which are sourced from your members. For Fairtrade sales you physically segregate the products that were produced by members from the products from non-members, at all stages (e.g. storage, transport, processing, packaging, labelling and handling), until the product is sold. Guidance: This requirement may not apply for processing of cocoa, cane 	PC	All standards provide requirements for the physical segregation of Fairtrade products, which must be kept separated from non-Fairtrade products at all stages. For some products, MB is allowed, which is the subject of the next indicator. However, the standard is not clear on the need of
	 Evidence certification body is able to link these records with the corresponding sales documents. 5.1.3 Record-keeping for processing Fairtrade products (Core, Year 0) If your company processes Fairtrade products you keep records that specify the amount of product before and after processing. FT TRA v1.7 2.1.1 Identification of Fairtrade products (Core) You clearly identify all Fairtrade products as Fairtrade in all purchase and sales documentation (e.g., invoices, delivery notes and purchase orders). You ensure that you and the certification body will be able to trace: the name and FLO-ID of the traders involved in a Fairtrade transaction; the applicable dates of the transaction; the quantities and physical form of the product when transacted (purchase and sale); and the payment of the Fairtrade price and Fairtrade Premium and prefinancing (where applicable). 2.1.2 Record-keeping (Core) You keep records of all entries, processing and sales of Fairtrade products. Records must allow the certification body to trace back from any given Fairtrade output to the Fairtrade inputs. FT COCOA v2.0 2.1.9 Mass balance: like for like rule related to origin (Core) If you sell a final cocoa product as Fairtrade under mass balance, with a claim regarding a specific origin, then you have purchased the equivalent Fairtrade cocoa volume input from the same origin (as indicated in the purchase documentation). FT SPO v2.5 2.1.1 Physical segregation of Fairtrade products (Core, Year 0) You only sell as Fairtrade those products which are sourced from your members. For Fairtrade sales you physically segregate the products that were	Evidence Outcome certification body is able to link these records with the corresponding sales documents. 5.1.3 Record-keeping for processing Fairtrade products (Core, Year 0) If your company processes Fairtrade products you keep records that specify the amount of product before and after processing. FT TRA v1.7 2.1.1 Identification of Fairtrade products (Core) You clearly identify all Fairtrade products (Core) You clearly identify all Fairtrade products as Fairtrade in all purchase and sales documentation (e.g., invoices, delivery notes and purchase orders). You ensure that you and the certification body will be able to trace: the name and FLO-ID of the traders involved in a Fairtrade transaction; the applicable dates of the transaction; the quantities and physical form of the product when transacted (purchase and sale); and the payment of the Fairtrade price and Fairtrade Premium and prefinancing (where applicable). 2.1.2 Record-keeping (Core) You keep records of all entries, processing and sales of Fairtrade products. Records must allow the certification body to trace back from any given Fairtrade output to the Fairtrade inputs. FT COCOA v2.0 2.1.9 Mass balance: like for like rule related to origin (Core) If you sell a final cocoa product as Fairtrade under mass balance, with a claim regarding a specific origin, then you have purchased the equivalent Fairtrade cocoa volume input from the same origin (as indicated in the purchase documentation). FT SPO v2.5 PC 2.1.1 Physical segregation of Fairtrade pro

Indicator	Evidence	Outcome	Justification
	sugar, juice and tea (see requirement 2.1.8). 2.2.1 Selling product in stock with new Fairtrade certification (Core, Year 0) When you become certified you can sell the product that you have in stock as Fairtrade, but you do not sell the product that was produced more than one year before initial certification as Fairtrade.		a documented procedure, stating the means through which products are kept segregated (e.g., specify inventory methods) and how to manage the risk of mixing with non-Fairtrade products. The explanatory documents only address the need to document the product flow,
	FT CP v1.4 A.2.1.1 You can only sell as Fairtrade those products which were sourced from registered producers. You must physically separate the products that were produced by registered producers from the products that were not produced by registered producers, at all stages, until the product is sold. (Core, Year 0)		i.e., description of how products move to the buyers (e.g., if members bring their products to a collection point or if the organization pick products up at members' farms).
	 A.2.1.7 When you sell a Fairtrade product, you must mark the product clearly so that it can be identified as Fairtrade. (Core, Year 0) This requirement does not apply for cocoa if you sell to operators without physical traceability. A.2.2.1 When you become certified, you can sell the product that you have in stock as Fairtrade, but you must not sell the product that was produced more than one year before initial certification as Fairtrade. (Core, Year 0) 		Furthermore, there is an important aspect to be considered for newly certified organizations. The standards allow for organizations to sell products in stock as Fairtrade in the first 12 months after certification. Thus, these products carry the Fairtrade name, but are not produced under Fairtrade requirements.
	FT HL v1.9 5.1.5 Physical segregation of Fairtrade product (Core, Year 0) If your company also handles non-Fairtrade products, it physically segregates the Fairtrade product from the non-Fairtrade product at all stages (e.g. storage, transport, processing, packaging, labelling and handling). 5.2.1 Selling product in stock with new Fairtrade certification (Core, Year 0) When your company becomes certified it can sell the product that it has in stock as Fairtrade, but it does not sell the product that was produced more than one year before initial certification as Fairtrade.		Because of the gaps identified, this indicator was classified as PC.
	 <u>FT TRA v1.7</u> 2.1.3 Physical segregation of Fairtrade products (Core) You physically segregate Fairtrade products from non-Fairtrade products at all stages of the supply chain. 2.1.4 Identification of products on-site (Core) You are able to identify Fairtrade products as Fairtrade at all stages (e.g. storage, 		

Indicator	Evidence	Outcome	Justification
	transport, processing, packaging, labelling and handling) as well as in all related records and documents. 2.1.5 Identification of products when sold (Core) When you sell Fairtrade products you clearly identify the product as Fairtrade. 2.1.6 Optional physical traceability (Core) You source Fairtrade cocoa, cane sugar, tea (camellia sinensis) or fruit juice from a Fairtrade trader certified against the physical traceability requirements. These products, when purchased, must be identified as a Fairtrade product with physical traceability. 2.1.7 Physical traceability for composite products (Core) If you combine physically and non-physically traceable ingredients in Fairtrade composite products, the Fairtrade physically traceable ingredients must comply with the physical traceability requirements. If for technical reasons this is not possible, you must apply for an exception with the certification body. 2.1.13 NEW 2018 B2B transparency on traceability model (Core) Whenever you sell cocoa, sugar or tea products as Fairtrade, you indicate in your sales documentation whether the product is segregated (physically traceable) or traded under mass balance		
B.2.2	<u>FT SPO v2.5</u> 2.1.8 Traceability at the processing stage (Core, Year 0) If you produce and process cocoa, cane sugar, juice or tea and you sell to operators without physical traceability, you do not need to physically separate the product that was produced by members, from the product that was produced by non-members at the processing stage. Guidance: The above points are called the Mass Balance Rules.	NC	The scheme allows the MB system to be applied for cocoa, cane sugar, juice and tea. In these cases, physical separation is only necessary up to the processing stage, from which Fairtrade and non-Fairtrade products can be mixed. MB is mentioned in the SPO, HL and TRA standards, but not the CP standard.
	 <i>FT_HL_v1.9</i> 5.1.6 Physical traceability at the processing stage (Core, Year 0) Guidance: The above points are called the Mass Balance Rules. <i>FT_TRA_v1.7</i> 2.1.8 Mass balance: equivalent amounts of inputs and outputs (Core) You ensure that the amount of outputs sold as Fairtrade is not more than the amount of inputs sourced as Fairtrade taking into account the processing yields and all losses. 		The quantity of outputs sold as Fairtrade products must be not more than the quantity of inputs sourced as Fairtrade (e.g. if 50 MT of Fairtrade and 100 MT of non-Fairtrade products are mixed when entering a factory under the MB system, only 50 MT can be sold as Fairtrade products, or the equivalent amount after processing by using the specified conversion factors).

Indicator	Evidence	Outcome	Justification
	 2.1.9 Mass balance: purchase prior to sale (Core) You ensure that Fairtrade inputs are delivered to and processed at the same site where the Fairtrade output is processed. 2.1.11 Mass balance: like-for-like (Core) You ensure that Fairtrade inputs are of the same kind and quality as the inputs used to process the Fairtrade output (like for like). 2.1.12 NEW 2018 Group mass balance (Core) If you want to implement group mass balance, then you obtain permission from the certification body before implementing it. Any change in the sites involved in the group mass balance also requires permission of the certification body. 2.1.13 NEW 2018 B2B transparency on traceability model (Core) 		This means that not the totality of Fairtrade cocoa products under the MB system can be considered as produced under the Fairtrade standards. No standards, requirements, procedures, documents, or systems to control for the social and environmental attributes of non- Fairtrade products entering the supply chain were identified. This means that non-Fairtrade products used by
	Whenever you sell cocoa, sugar or tea products as Fairtrade, you indicate in your sales documentation whether the product is segregated (physically traceable) or traded under mass balance.		traders and companies under the MB can be associated with deforestation and non- compliance with legislation. Therefore, this indicator was classified as not covered.
B.2.3	Same as above.	NC	Same as above.
B.2.4	Same as above.	NC	Same as above.
C.1.1	-	NA	Fairtrade standards are not locally adapted.
C.2.1	 FT SPO v2.5 3.1.1 Informing members about the Standard (Core, Year 0) You inform your members and explain to them the environmental and labour requirements in the Production chapter. 3.1.2 Risks of non-compliance (Core, Year 1) You identify which requirements in the Production chapter you and your members may be at risk of not complying with. 3.1.3 NEW 2019** Updating risk assessments (Core, Year 3) Your identification of risks is repeated periodically, at a minimum every 3 years. 3.1.4 NEW 2019** Procedure for monitoring and assessing performance (Core, Year 3) You define and implement a procedure to monitor and assess the performance and compliance of your members in relation to the requirements in the Production chapter. 3.1.5 NEW 2019** Internal Management System for 2nd and 3rd grade organizations (Core, Year 3) 	PC	The standards are quite variable in the requirements for internal compliance assurance. The SPO standard requires a periodic risk assessment of non-compliances, which must be updated every 3 years. It also requires a procedure for monitoring and assessing performance, which could include a direct evaluation of members, e.g., through an IMS, or members can assess themselves and provide feedback (thus different degrees of stringency can be adopted). Only 2nd and 3rd grade organizations and 1st grade organizations with more than 100 members are required to implement an IMS, which would include, for example, documented procedures, plans and policies, the appointment of a responsible.

Indicator	Evidence	Outcome	Justification
	If you are a 2nd or 3rd grade organization, you implement an Internal		internal regulation and inspectors, training
	Management System (IMS) which enables you to monitor and assess compliance		reports, internal sanctions, and other elements
	with Fairtrade requirements at all levels of the organization.		The decision of the necessary elements is up to
	Guidance: General principles for a functioning IMS are:		the CB.
	 A documented description of the IMS; 		
	 A documented management structure, which includes plans and policies; 		The CP standard requires an ICS, whic
	 One person responsible for the IMS; 		presents the same features of the IMS describe
	 An internal regulation to ensure compliance; 		above. However, no further requirements wer
	 Identified internal inspectors; 		identified. The HL standard only requires th
	 Training of the person responsible and the internal inspectors; 		appointment of a Fairtrade Officer, which i
	 Annual inspections and reports, including key production indicators; 		responsible to ensure implementation an
	 Use of internal sanctions; 		monitoring. However, no further requirement
	 Regularly updated list of members; 		were identified. A similar approach is adopted b
	 Use of risk assessment to address risks and threats to the integrity of the IMS. 		the TRA standard.
	The certification body will define and publish the necessary elements that an IMS		The commodity-specific standards strengthen th
	will require.		risk management practices by introducing du
	3.1.6 NEW 2019** Internal Management System for 1st grade organizations		diligence. The COCOA standard requires
	(Dev, Year 3)		human rights and environmental risk assessmer
	If you are a 1st grade organization with more than 100 members, you implement		at least every 3 years, which is based on
	an Internal Management System (IMS) which enables you to monitor and assess		document for due diligence and supporting maps
	compliance with Year 3 Fairtrade requirements at all levels of the organization.		The due diligence has a wider scope tha
			assessing non-compliance with the standards
	<u>FT CP v1.4</u>		The COFFEE standard also links som
	A.3.1.1 You must have an Internal Control System (ICS) in place in order to		requirements related to labour conditions to the
	monitor the implementation of the Standard and of the organizational		document.
	development plan (ODP) (as defined in requirement A.4.1.2) (Core, Year 1)		
	Guidance: You are accountable for the implementation and monitoring of		Overall, some gaps were identified for a stron
	this Standard, including the organizational development plan. General		internal system of compliance assurance system
	principles for a functioning ICS are the same as in the IMS from		especially when considering the variability acros
	FT_SPO_v2.5.		standards (e.g., the completeness to require ris
	A4.1.2 You and the registered producers must develop an ODP in a democratic		management practices, staff requirements an
	and transparent manner. The ODP must show a timeline and activities that		appointment of a qualified responsible
	support the registered producers in getting organized. You must not impose your		documentation and updating of procedures
	views in the development of the plan. (Core, Year 1)		reporting of outcomes, record-keeping etc). Thus

Indicator	Evidence	Outcome	Justification
			this indicator was classified as PC.
	<u>FT HL v1.9</u>		
	1.2.1 Fairtrade Officer (Core, Year 0)		
	Your company appoints a person responsible for Fairtrade matters, called the		
	Fairtrade Officer, who reports to senior management and is responsible for the		
	overall co-ordination of Fairtrade in your company and for handling all necessary		
	Fairtrade related communications.		
	The tasks of the Fairtrade Officer are to:		
	• Act as a liaison between Fairtrade International, the certification body,		
	workers and managers regarding Fairtrade matters;		
	Ensure the implementation and monitoring of the company's performance		
	regarding the Fairtrade requirements.		
	The Fairtrade Officer has the relevant knowledge and experience to perform		
	these tasks.		
	<u>FI_IRA_V1./</u>		
	1.1.9 Fairliade office (Core)		
	Fou designate one official contact for Fairfiade-related matters.		
	Guidance. The key contact (the Fail trade onice) acts as the main contact		
	onsuring your compliance with all requirements and for keeping the		
	certification body undated with contact details and other relevant		
	information		
	intormation.		
	<u>FT_COCOA_v.2.0</u>		
	3.2 Human Rights and Environmental Due Diligence (all sections and		
	requirements)		
	3.2.3 NEW JULY 2023 Risk Assessment (Core, Year 0)		
	You conduct a human rights and environmental risk assessment at least every 3		
	years.		
	Guidance: Acknowledging your risks and challenges allows you to		
	address them before they grow bigger and builds your credibility among		
	business partners and other stakeholders. Fairtrade's Risk Assessment		
	Tool guides you through a basic risk assessment process and offers you		
	relevant data and research findings. For further guidance, please see		

Indicator	Evidence	Outcome	Justification
	Fairtrade's "Implementing Human Rights and Environmental Due Diligence, Guide for Smallholder Farmer Organizations" and Fairtrade's Risk Maps.		
	 <u>FT COFFEE v.2.4</u> 3.2.1 NEW 2022*** Risk assessment (Core, Year 0) You assess annually whether you are operating in countries and areas at risk of child labour, forced labour and human trafficking. Guidance: Please note that this requirement complements SPO Standard requirement 3.1.1 on Risks of non-compliance and 3.1.2 on Updating risk assessments. Please refer to the Fairtrade Human Rights and Environmental Due Diligence Guide for Small-scale Producer Organizations for more 		
	information on how to implement HREDD. FT_HREDD Human Rights and Environmental Due Diligence (HREDD) is about working step- by-step to reduce human rights problems and damage to the environment. Human rights are the basic rights and freedoms of every human being. Environmental sustainability is achieved when natural resources can sustain wellbeing now and in the future. HREDD risk assessment is wider than the assessment of non-compliance risks, which has long been expected by Fairtrade's Small-Scale Producer Standard (requirement 3.1.2): At Step 1 of HREDD risk assessment, farmer organisations are to consider all human rights and environmental issues.		
C.2.2	 <u>FT AP v2.0</u> 5.5.1 *The auditor collects and verifies audit evidence relevant to the audit objectives, scope and criteria, including information relating to interfaces between functions, activities and processes by appropriate sampling. 5.5.2 The audit is documented in an audit report, which is sent to the assurance provider within the timeline set by the assurance provider but not longer than one month after end of the audit and which includes at least the following: 5.5.2.1 Details of the audit process, including length of the audit, sources of information, sampling (e.g., producer interviews and visits, selection of supply chains reviewed in trade audits), use of translators/experts. 	FC	The AP standard requires the documentation of the audit process and sources of information. The assessment of all applicable Fairtrade compliance criteria is also to be documented. It is under the responsibility of the AP to control the records of the certification process, which must be archived for 5 years.

Indicator	Evidence	Outcome	Justification
	 5.5.2.2 Assessment of all applicable Fairtrade compliance criteria. 5.5.2.3 Evaluation of non-conformities (if any) and relevant feedback on performance (e.g., recommendation for improvement, changes since last audit, performance in relation to peers). 6.1.2 *The management system addresses at least the following aspects: 6.1.2.1 Control of documents such as certification operation procedures and policies. This includes procedures to review and update documents as needed, keep a track of changes done and ensuring that up to date versions are available and used consistently. 6.1.2.2 Control of records of the certification process. Records are archived for at least five years. 6.1.2.3 Management review and internal audits to ensure and improve consistent application of all relevant certification procedures and policies. 6.1.2.4 Identification and correction of any non-conformities with own procedures (e.g., from internal audits, complaints). Analysis of the causes and implementation of corrective and preventive measures where relevant. 		
C.3.1	Core requirements which reflect Fairtrade principles and must be complied with. These are indicated with the term 'Core' found in the column on the left throughout the Standard. <u>FT SPO v2.5</u> 1.1.6 NEW 2019* Compliance with national legislation (Core, Year 0) There are no indications that you or your members violate national legislation on the topics covered by this Standard. 3.2.31 NEW 2019* Protection of forests and vegetation (Core, Year 0) Your members do not cause deforestation and do not destroy vegetation in carbon storage ecosystems or protected areas. <u>FT CP v1.4</u> References Fairtrade International requires that registered producers and promoting bodies always abide by national legislation. B3.1.13 You must avoid negative impacts on protected areas and in areas with high conservation value within or outside the farm or production areas or from the	PC	The SPO standard presents requirements for compliance with national legislation and for protection of forests and vegetation, thereby prohibiting deforestation. They are both core requirements, which represent Fairtrade principles that must be complied with. According to the AP standard, APs must present a list of compliance criteria, classifying them as major, core or development. NC with a major compliance criterion as well as multiple core requirements may lead to sanctions (denial, suspension, withdraw and financial penalty). Both requirements mentioned in the previous paragraph are classified as core compliance criteria, rather than major (see FLO_SPO_CC, items1.1.0.21 and 3.2.6.08).

Indicator	Evidence	Outcome	Justification
	date of application for certification. The areas that are used or converted to production of the Fairtrade crop must comply with national legislation in relation to agricultural land use (Core, Year 0) Negative impact refers to partial or complete destruction of the protected area or loss of the conservation value.		NCs can be addressed up to 3 months in case of traders, and 9 months in case of producers, and clients are once again found compliant after corrective actions. Sanctions are applied by APs if NCs are not corrected effectively. Thus, there is a risk that CHs are associated with deforestation
	<u>FI HL V1.9</u> References Fairtrade International requires that companies always abide by national legislation on topics covered by this standard. 4.6.1 Conservation of protected areas (Core, Year 0)		and non-compliance with legislation, as certificate denial, suspension and withdraw are not guaranteed by the standards when relevant requirements are violated.
	Your company avoids negative impacts on protected areas and in areas with high conservation value, within or outside the farm or production areas. The areas used or converted to production of the Fairtrade crop comply with national legislation in relation to agricultural land use. Negative impact refers to partial or complete destruction of the protected area or loss of the conservation values.		The CP and HL do not present a no deforestation requirement, and the CP, HL and TRA standards do not present a requirement for compliance with legislation. The latter presents a requirement restricted to labour and environmental laws. For all of these, an introductory section named References states that Fairtrade International
	FT_COCOA_v2.0 3.4.1 NEW 2024 Protection of forests and ecosystems (Core, Year 0) Your members did not cause deforestation or degradation in primary or secondary forests, protected areas and areas of High Conservation Value or High Carbon Storage to convert land into agricultural production area since 31st December 2018. Please note that this requirement complements SPO Standard requirement 3.2.31 "Protection of forests and vegetation".		requires compliance with national legislation, but this is not translated into Fairtrade core requirements. Furthermore, only for HL this was translated into compliance criteria (see FLO_HL_CC, items 1.1.0.24 and 1.1.0.28). Thus, it is not clear how a transgression of national legislation is handled by the scheme for the other cases.
	FT TRA v1.7 References Fairtrade International also requires that operators always abide by national legislation, on the topics covered by this standard. 3.1.1 NEW 2017 Compliance with labour law and ILO conventions (Core) You are aware of the applicable labour laws in your country and of the fundamental ILO conventions and there are no indications that you violate any of them.		Based on these findings, farmers, companies and operators can be Fairtrade certified and still be associated with deforestation and non- compliance with legislation, resulting from a) a lack of comprehensive requirements and compliance criteria on these topics, and b) the possibility of maintaining the compliant status by implementing corrective actions, as they are not

Indicator	Evidence	Outcome	Justification
	3.2.1 NEW 2017 Compliance with environmental law (Core) You are aware of the applicable environmental laws in your country and there are no indications that you violate any of them.		major NCs. Thus, this indicator was classified as PC.
	<u>FT AP v2.0</u> 2.12.1 *When the assurance provider detects non-conformity against the relevant		
	Fairtrade standard(s) and compliance criteria, it raises a non-conformity report which shall require the client to take effective corrective measures and		
	2.12.2 The assurance provider grades non-conformities and set deadlines for corrective measures according to its sanction policy.		
	2.12.3 The assurance provider's sanction policy is in line with Fairtrade International's Sanction Policy (Annex D) that determines the following types of sanctions: Denial of Certification or Cancellation of Permission to Trade.		
	Suspension of certificate, De-Certification, Financial Penalty.		
	ANNEX D: Fairtrade International Sanction Policy		
	D.1 Compliance Evaluation in the Fairtrade System		
	Based on the Fairtrade Standards, a detailed list of compliance criteria is used by		
	all Fairtrade assurance providers to assess compliance. There are three types of		
	Major (M): reflects key Fairtrade principles where non-compliance		
	represents a major risk to the Eairtrade system		
	Core (C): reflects Fairtrade principles and must be complied with.		
	Development (D): refers to the continuous improvement that certified		
	clients must demonstrate. Compliance with development requirements is		
	verified against an average score.		
	Non-conformity with a major compliance criterion as well as multiple core		
	requirements may lead to certification sanctions.		
	D.2 Sanctions		
	D.2.1 when the assurance provider detects non-conformity it falses a non- conformity report and requests the client to propose corrective action to correct		
	the non-conformity within an agreed timeframe (see section 2.12)		
	D.2.2 The timeframe for correction of non-conformities shall not be more than 3		
	months in case of traders, and 9 months in case of producers, with option to		

Indicator	Evidence	Outcome	Justification
	extend the deadline in justified cases up to a maximum of 1 year. D.2.3 If, after evaluated positively the evidence for corrective action, the client is found to be compliant with the Fairtrade Standards, the certificate is issued (see section D1.1). D.2.4 If non-conformities are not corrected effectively within the agreed timeframe or in cases of severe non-conformities, the assurance provider applies certification sanctions according to its own sanction policy and ensuring consistency between clients.		
	 <u>FLO_SPO_CC_7.9</u> Compliance Criteria are established by FLOCERT to translate requirements of the Fairtrade Standards and FLOCERT requirements into verifiable control points that are evaluated during the certification process to determine compliance with the Fairtrade Standards. 1.1.0.21 There are no indications that you or your members violate national legislation on the topics covered by this standard. 3.2.6.08 Your members do not cause deforestation and do not destroy vegetation on protected areas or other carbon storage ecosystems. 		
	FLO HL CP 7.29 B3.1.13 From the date of application for certification, you avoid negative impacts on: -protected areas; -areas with high conservation values within or outside the farm or production areas.		
	 <u>FLO HL_CC_7.26</u> 1.1.0.24 (Not applicable to tea) There are no indications that you violate national legislation on topics covered by the Fairtrade Standard for Hired Labour companies. 1.1.0.28 (Tea) You are aware of the applicable national legislation in your country on the topics covered by this standard and there are no indications of its violation. 4.6.1 The company avoids negative impacts on protected areas and in areas with high conservation value, within or outside the farm or production areas. 		
C.3.2	FT AP v2.0 3.1.1 *The assurance provider is a legal entity and has the financial stability and resources required for its operations.	FC	The AP standard sets requirements to fully address this indicator. APs are required to be a legal entity and must act impartially. The

Indicator	Evidence	Outcome	Justification
	3.2.1 *The assurance provider conducts its certification activities impartially and does not allow commercial, financial or other conflicts of interest to compromise the impartiality of its activities and decisions.		standard also requires the implementation of policies to address risks to impartiality and potential conflicts of interest.
	external, who could influence the certification decision act impartially. 3.2.3 *The assurance provider identifies risks to impartiality and potential conflicts of interest on regular basis, and documents how potential risks and conflicts are avoided or mitigated. The analysis includes risks that arise from its audit and certification as well as licensing or consulting activities (if any), from its relationships with clients or partner organizations, or from the relationships of its		The AP standard also sets requirements for auditors and other assurance personnel, including qualification criteria and competency criteria.
	 3.2.4 *The assurance provider has and implements a conflict of interest policy that describes how conflict of interests of audit and certification personnel are identified, disclosed, managed and prevented. The policy shall describe in particular how the risk of auditor impartiality is mitigated by adequate measures such as e.g. rotation of auditors or witnessing of audits. 4.1.1 *The assurance provider employs, or has access to, a sufficient number of competent and qualified personnel to cover its audit and certification operations. 		
	 4.1.2 All personnel performing assurance activities, including auditors and certification personnel, shall meet the requirements set out in 4.2. 4.1.3 *The assurance provider establishes, implements and maintains a procedure for management of competencies of personnel involved in the certification process. 4.2.5 All auditors and other assurance personnel shall meet the qualification criteria set out in table A1 or possess a demonstrable equivalent competence 		
	 Table A1 includes: Work experience, Auditing experience, Fairtrade system training. 4.2.6 All auditors and other assurance personnel shall meet the competency criteria set out in Table A2 as applicable. Table A2 includes: Language skills, Communication, Time management, Personal attributes, Knowledge of Fairtrade system. 		
C.3.3	<u>FT AP v2.0</u> 2.9.2 Certificates have a maximum of four-year validity from the date of the initial certification, subject to continuing satisfactory performance. 2.9.3 The assurance provider undertakes a risk assessment of the client to	PC	The AP standard sets the rules for audits frequency. A full initial on-site audit must be conducted, as well as a full on-site audit for recertification. On-site or desk-based surveillance.

Indicator	Evidence	Outcome	Justification
	determine audit frequency and intensity.		follow-up and unannounced audits are conducted
	2.9.4 The risk categorization and the related audit frequency and intensity and		during the certification cycle. However, the
	policy for unannounced audits are based on the Fairtrade International Risk		frequency is defined according to a risk-based
	Based Assurance Policy (Annex C).		approach, which is based on the probability that
	2.9.7 Prior to the end of each certification cycle, the assurance provider		Fairtrade standards are not being met.
	undertakes a full on-site audit of conformity, assessing conformity with all		
	applicable compliance criteria and follow up allegations if any.		Thus, the frequency varies across CHs. On the
	2.9.8 The certification cycle is no longer than three years.		terms of this indicator, there is a problem
	2.9.10 If the certification cycle is longer than one year, the assurance provider		specially for low-risk clients, which receive a
	conducts surveillance audits following the guidance provided on the frequency		minimum of 1 audit per 3 year certification cycle.
	and scope defined in the Fairfade International Risk-based Assurance Policy		Moreover, surveillance audits may be waived in
	(Annex C). In line with this policy, surveillance audits may be on-site of desk-		case of low-lisk clients. Thus, there is a
	based, and may be waived in case of low fisk clients.		checks at intervals longer than 12 months
	2.9.11 The scope of surveillance audits may be reduced in the context of the		checks at intervals longer than 12 months.
	assurance provider's risk policy, but must always at least include a follow up on		Thus, this indicator was classified as PC
	all non-conformities detected during the last audit and flag all non-conformities		
	with all other compliance criteria using a reactive audit approach.		
	2.9.12 Follow-up on-site audits take place as needed to review and close out		
	non-conformities raised during any type of audit.		
	2.9.13 The assurance provider conducts unannounced on-site audits as part of its		
	risk-based assurance activities. Guidance regarding unannounced audits is		
	described in the Fairtrade International Risk-based Assurance Policy		
	(Annex C).		
	ANNEX C: Fairtrade International Risk Based Assurance Policy		
	C.1 Risk categories and frequency of audits		
	C.1.1 Assurance providers categorize clients as high, medium and low risk		
	according to a risk categorization system set by the assurance provider.		
	C.1.2 The audit frequency (number of audits per certification cycle) is determined		
	for each risk category and may vary according to the type of client (e.g.,		
	producer, trader).		
	C.1.5 The risk categorisation system of the assurance provider meets or exceeds		
	the following guidelines on risk category and related audit frequency:		
	C.1.5.1 HIGH RISK CLIENTS: Minimum Audit Frequency of 3 audits per		

Indicator	Evidence	Outcome	Justification
	3-year-Certification Cycle (thereof 1 recertification audit) C.1.5.2 MEDIUM RISK CLIENTS: Minimum Audit Frequency of 2 audits per 3-year-certification cycle (thereof 1 recertification audit) C.1.5.3 LOW RISK CLIENTS: Minimum Audit Frequency - 1 audit per 3 year Certification Cycle (thereof 1 recertification audit) C.2 Unannounced audits		
	C.2.1 The assurance provider provides for a minimum number of unannounced audits as defined in its risk based assurance policy		
C.3.4	 <u>FT AP v2.0</u> 5.4.1 *The on-site audit follows the assurance provider's Audit SOP which has to provide guidance on the scope, focus and issues to be covered in different audit types. 5.4.2 The cudit church covers the following store: 	PC	The AP standard requires APs to develop an Audit Standard Operating Procedure (SOP) to guide audits, based on the guidelines provided in this standard.
	 5.4.2 The audit always covers the following steps: 5.4.2.1 Opening meeting. 5.4.2.2 Field / site visits, interview and review of documentation. 5.4.2.3 Visits to production sites (processing site, farms, etc.) to verify compliance with various requirements of the Fairtrade Standards. 5.4.2.4 Interviews to verify or complement information received during other interviews, document reviews or during a physical audit or production sites/additional entities. For producer and worker interviews. 		FLOCERT's Audit SOP sets the rules for audits. The document defines the composition of audit teams, the number and kind of interviews, the number of samples taken on affiliated organizations, and the documents that need to be checked.
	 see Guidance on Interviews in Part B & C. Interviews include personnel from different operational units to complete the picture and triangulate information. 5.4.2.5 Cross-check of information from different sources, also external as relevant. The auditor identifies and uses the most authentic sources of information. 5.4.2.6 Check a certain number of transactions / contracts / invoices (see Sampling Guidance in Part B & C). 		Evidence for conformity assessment is gathered from three main sources: interviews, field visits and documentation revision. Guidelines are available for how to conduct interviews and what is the sample size for each certification scope. Specific elements to be checked in documentation revision and field inspection are provided in the compliance criteria documents.
	 5.4.2.7 Any field visit as well as the physical audit of production/procession or other relevant facilities takes into consideration what was reviewed in previous audits. 5.4.2.8 Closing Meeting. Part B: Additional Requirements for Assurance Providers Certifying Traders 8.1.2 The assurance provider plans sufficient time to review documentation, perform interviews and physically inspect the facilities and processes (where 		The documents do not cover obtaining information from external stakeholders (e.g., members of the community affected by the activities and legal authorities), which can be important sources of information on non- compliance with the standards. Therefore, this

Indicator	Evidence	Outcome	Justification
	relevant).		indicator was classified as partially covered.
	8.2.1 The audit includes a review of a representative sample of relevant trade		
	documentation such as invoices, purchase orders, sales invoices, transport		
	documentation, processing/product flow documentation.		
	8.2.2 A representative sampling method, either simple or stratified, is used to		
	allow inferring the results of the audit to the whole population. Additionally,		
	judgment-based sampling can be used by auditors (guidance on this method can		
	be seen in ISO 19011 B3).		
	8.2.5 During the audit information is obtained from different sources, including		
	interviews and visit of different functions within the company, e.g. purchase,		
	Bart C: Additional Dequirements for Accurace Draviders Cartifying Draducers		
	Part C. Auditional Requirements for Assurance Providers Certifying Producers		
	members and/or workers. The Audit SOP provides guidance as to selection of		
	producers or staff to be interviewed depending on the type of producer		
	organization		
	9.2.3 *A representative sampling method, either simple or stratified, shall be used		
	to allow inferring the results of the audit to the whole population. Additionally,		
	judgment-based sampling can be used by auditors (guidance on these methods		
	can be seen in ISO 19011 B3).		
	9.2.4 The minimum number of interview (as defined by the audit SOP; to be		
	conducted by the auditor) meets, at minimum, the requirements of table C1.		
	Table C1 indicates the Number of persons interviewed based on the Number of		
	members or workers.		
	9.2.5 In all cases the sample is chosen by the auditor and not by the client. In		
	particularly high risk areas or in case of potential fraud, the auditor takes extra		
	care to confirm the identity and authenticity of interview partners, and to		
	crosscheck information particularly carefully between different sources of		
	Information.		
	9.2.6 A site visit may also include taking of samples, e.g. soli, for subsequent		
	0.2.7 Where the Existrade Standard requires a formal internal quality		
	management system the assurance provider's audit and certification SOPs		
	provide extra guidance for such audits. The audit focuses on the effectiveness of		
	the Internal Control System in identifying and resolving non-conformities of group		

Indicator	Evidence	Outcome	Justification
	members. It shall include a review of the group's management system records, sample audits of some group members to cross-check the efficiency of the Internal Control System and a review of the group's procedures to deal with non-conformities. The SOP provides guidance on the consequences if the auditor identifies non-conformities of group members, which may point to a systemic failure of the Internal Control System and a non-conformity of the group. 9.2.8 The audit SOP also provides guidance as to what documentation needs to be verified for different types of producer audits, e.g. trade documentation, employment records etc.		
	 FLOCERT AUD v21 6 Audit Structure (2) Interviews/Field Visits/Documentation Revision 6.1.1 Interviews Conducting interviews is an integral part of the audit routine for producer and trader audits and an important tool for verifying compliance with the Fairtrade Standards. It allows us to gain an insight into the daily routines of our certified customers and receive first-hand information from members and/or workers. A representative sample of interviews should be conducted on different levels of an organisation/company. 6.1.2 Sample size of farms during a 1st Grade Producer Organisation or Contract Production Audit The auditor is requested to physically audit a certain number of member farms to be able to see cultivation practices and to talk to farmers individually. 		
C.3.5	 FT SPO v2.5 1.1.3 NEW 2019* Established organization (Core, Year 0) You demonstrate that you are an established organization by providing the following documents: Legal registration, Records of commercialization and Financial statements. 3.1.1 Informing members about the Standard (Core, Year 0) You inform your members and explain to them the environmental and labour requirements in the Production chapter. 3.1.2 Risks of non-compliance (Core, Year 1) 	PC	SPO and CP standards are focused on groups of small-scale producers, where there is an organization in place to manage all aspects of the Fairtrade certification, including compliance by group members. SPOs are legal organizations, and the requirements are directed to them. Thus, SPOs are the responsible parties for fulfilling the requirements laid down in the standard. In the case of CP, requirements are directed to

Indicator	Evidence	Outcome	Justification
	You identify which requirements in the Production chapter you and your members may be at risk of not complying with. 3.1.3 NEW 2019** Updating risk assessments (Core. Year 3)		promoting bodies, which are the intermediary organizations (e.g., traders, NGOs) that either contracts and/or supports small producers that
	Your identification of risks is repeated periodically, at a minimum every 3 years.		are not vet organized to fit into the scope of the
	3.1.4 NEW 2019** Procedure for monitoring and assessing performance (Core,		SPO standard. In both cases, the standards do
	You define and implement a procedure to monitor and assess the performance		for the qualification and functioning of SPOs and
	and compliance of your members in relation to the requirements in the Production		promoting bodies in order to promote an effective
	 chapter. 3.1.5 NEW 2019** Internal Management System for 2nd and 3rd grade organizations (Core, Year 3) 		qualification, basic positions and responsibilities for group management, policies, procedures etc).
	If you are a 2nd or 3rd grade organization, you implement an Internal		
	Management System (IMS) which enables you to monitor and assess compliance with Fairtrade requirements at all levels of the organization.		In the case of CP, an ICS must be in place, with documented procedures, plans and policies, one
	Guidance: General principles for a functioning IMS are:		person responsible for the system etc. In the
	A documented description of the IMS;		case of the SPO standard, an IMS is only
	 A documented management structure, which includes plans and policies; 		required for 2nd and 3rd grade organizations, or
	 One person responsible for the IMS; 		1st grade organizations with more than 100
	 An internal regulation to ensure compliance; 		members.
	 Identified internal inspectors; 		
	 Training of the person responsible and the internal inspectors; 		The CB defines strategies for defining sampling
	 Annual inspections and reports, including key production indicators; 		method. FLOCERT audit procedure presents the
	Use of Internal sanctions; Desudation undeted list of mershare.		sampling strategies adopted in audits for
	Regularly updated list of members;		collecting evidence on compliance. This applies
	Ose of risk assessment to address risks and threats to the integrity of the		to the interview of members and workers, for the
	The certification body will define and publish the necessary elements that an IMS		documentation revision
	will require		documentation revision.
	3.1.6 NEW 2019** Internal Management System for 1st grade organizations		Overall, there is not a full clarity of the policies.
	(Dev. Year 3)		procedures and minimum requirements that must
	If you are a 1st grade organization with more than 100 members, you implement		be in place for all SPOs and for promoting bodies
	an Internal Management System (IMS) which enables you to monitor and assess		in order to achieve an affective group
	compliance with Year 3 Fairtrade requirements at all levels of the organization.		management. Thus, this indicator was classified
	3.2.1 Responsibility for environmental development (Core, Year 0)		as PC.
	A person in your organization is given responsibility to lead the operational steps		

Indicator	Evidence	Outcome	Justification
	required for your organization to comply with the requirements in section 3.2		
	Environmental Development.		
	<u>FT CP v1.4</u>		
	A1.2.4 You must have at least one year of practical experience in supporting the		
	registered producers and in helping them to meet the volume, quality and		
	environmental requirements of the target market. (Core, Year 0)		
	A1.2.5 You must have experience in selling products in the international market.		
	(Core, Year 0)		
	A1.2.7 You must demonstrate that you have the competency and enough		
	resources to provide the necessary services and trainings to support the		
	formation of one or more than one producer organization.		
	A.3.1.1 You must have an Internal Control System (ICS) in place in order to		
	monitor the implementation of the Standard and of the organizational		

views in the development of the plan. (Core, Year 1)

FLOCERT AUD v21

6.1.1.1 Number of member interviews – 1st Grade Producer Organisation: varies according to the total number of members (min 10 interviews for <10 members; min 40 interviews for >1000 members)

A4.1.2 You and the registered producers must develop an ODP in a democratic and transparent manner. The ODP must show a timeline and activities that support the registered producers in getting organized. You must not impose your

development plan (ODP) (as defined in requirement A.4.1.2). (Core, Year 1) Guidance: You are accountable for the implementation and monitoring of this Standard, including the organizational development plan. General principles for a

functioning ICS are the same as in the IMS from FT SPO v2.5.

6.1.1.2 Number of worker interviews – 1st Grade Producer Organisation: varies according to the total number of workers (min 5 interviews for 0-10 workers; min 15 interviews for >50 workers)

6.1.1.3 Number of member interviews – 2nd/3rd Grade Producer Organisation: varies according to the total number of members (min 6 interviews for <50 members; min 20 interviews for >1000 members)

6.1.1.4 Number of worker interviews – 2nd/3rd Grade Producer Organisation: varies according to the total number of workers (min 5 interviews for 0-10

Indicator	Evidence	Outcome	Justification
	 workers; min 15 interviews for >50 workers) 6.1.1.5 Number of interviews – Contract Production Project: varies according to the total number of members (min 10 interviews for <50 members; min 30 interviews for >1000 members) 6.1.1.6 Number of interviews – Single Plantation and Multi Estate (hired labour): varies according to the total number of workers (min 10 interviews for <50 workers; min 30 interviews for >1000 workers) 6.1.2 Sample size of farms during a 1st Grade Producer Organisation or Contract Production Audit: varies according to the total number of members) 6.1.7 Sample Checking of Trading Information (only Trade Level): The auditor is requested to cross check or sample check certain trade information of the customer during an audit. The sample varies according to the type of document. 		
C.4.1	All standards are publicly available. SPO, CP, HL, TRA, COCOA and COFFEE standards are available at: <u>https://www.fairtrade.net/standard</u> Each standard is also accompanied by a series of supporting documents, such as interpretation notes, main changes from previous versions, explanatory documents etc. Standards and other documents related to the assurance system are available at: <u>https://www.fairtrade.net/about/integrity-in-compliance</u> This includes the AP standard, as well as other documents, such as the oversight procedure and requirements for licensing bodies. FLOCERT Compliance Criteria documents for all Fairtrade standards are available at: <u>https://www.flocert.net/fairtrade-compliance-criteria/</u> FLOCERT Audit Standard Operational Procedure is available at: <u>https://stakeholder-portal.flocert.net/wp-content/uploads/2017/09/audit- procedure.pdf</u>	FC	All standards and supporting documentation are publicly available online. The full set of documents requires searching in both the Fairtrade and the FLOCERT websites. The Fairtrade standards present the full requirements that CHs are checked against, and the FLOCERT documents provide practical information on how the process is conducted.
C.4.2	These last two documents complement the Fairtrade standards, as to how requirements are translated into audit criteria and procedures. Fairtrade Finder is available at: <u>https://www.fairtrade.net/finder</u> Using the finder:	FC	The scheme provides a search tool, where certification information is publicly available.

Indicator	Evidence	Outcome	Justification
	 Here you can find producers and businesses around the world that sell Fairtrade certified products. This directory includes: Fairtrade certified producer organizations and traders Fairtrade licensees Type in the FLOID, organization name, or country into the search box, or use the filters in the left panel to explore the directory. Disclaimer: Please note that this directory is still being developed, linking data from several several		Organizations can be identified by their names and by the FLO-ID. The database can be filtered by location, the licensing status, the certification status, and the certification scope (standard and products). Certification status can be: certified, not certified, or suspended. Thus, it is possible for interested parties to identify relevant information on CHs.
	internal sources. It is not yet complete and may in rare cases not be accurate. After a certificate is cancelled, the organization will remain in the directory for up to one year. You should always obtain direct confirmation from your supplier or buyer about their certification/licensing status before entering into a contract. If you have any concern regarding the status of a producer or business please contact FLOCERT or the relevant Fairtrade organization. If you have queries about this database please contact us at <u>assurance@fairtrade.net</u>		On the other hand, the directory is still under development, incomplete and might contain inaccuracies. It is also unclear how often the directory is updated. The AP standard indicates that APs must send to Fairtrade International relevant information on CHs at least annually, so this information can be made publicly available. Thus, this could be an indication that there is a large time gap between updates.
	Fairtrade Customer Search: <u>https://www.flocert.net/fairtrade-customer-search/</u> Use our customer search tool to find out if your business partners are Fairtrade- certified. FLOCERT, the certification body for Fairtrade, serves 6,000+ customers in 120+ countries, connecting directly with 2 million farmers and workers worldwide. This webpage allows for finding FLOCERT clients. A search bar is available (Keyword search), as well as filters (Product category and type, Status of certification, Country, Function). Status of certification include Certified or Suspended. Database is periodically updated.		However, FLOCERT provides a list of clients on its website, which contains all relevant information for this indicator. CHs can be found by search or filter, and the list contain the status of certification. Database is periodically updated. Thus, this indicator was classified as FC.
	FT AP v2.0 2.18 Publicly available information 2.18.1 *Assurance providers submit to Fairtrade International at least annually the necessary information to enable Fairtrade International to make the following information publicly available:		

Indicator	Evidence	Outcome	Justification
	 2.18.1.1 Name of certificate holder. 2.18.1.2 Address and contact details. 2.18.1.3 Scope of certification. 2.18.1.4 Up to date certification status. 2.18.2 *Assurance providers make their certification SOPs publicly available. 		
C.4.3	<u>FT AP v2.0</u> Same as above.	NC	APs must send to Fairtrade International relevant information on CHs at least annually, so this information can be made publicly available. However, summary of audit reports is not among this information. No evidence was found on the availability of such information for public access. Therefore, this indicator was classified as NC.
C.4.4	FT OC v1.0 1.3 Fraud and Corrupt Practices The Fairtrade System recognises its responsibility to safeguard resources in an economical and ethical manner. The Fairtrade System is committed to taking a robust and systematic approach to the prevention and detection of fraud and other corrupt practices, and maintaining a culture of honesty, integrity and opposition to fraud and corruption.	FC	Fairtrade has a code in place, which requires that all Fairtrade Members adopt clear policies and control plans to prevent, detect and act on any evidence presented of fraudulent or corrupt practices. Fairtrade Members include Fairtrade International and AP, for example.
	Fairtrade Members should adopt clear policies and control plans to prevent, detect and act on any evidence presented of fraudulent or corrupt practices. Commitments must apply to all persons acting on behalf of the Member, such as officers, employees, consultants, contractors and agents or other intermediaries. Every individual and organization contracted by Fairtrade should be made aware of their personal responsibility and obligation to conduct Fairtrade activities		The scheme also presents a policy for APs to handle claims of violations of the standards. Basic requirements are set in the AP standard and in the oversight procedure. FLOCERT makes available the procedures for handling allegations.
	ethically and in compliance with the law. Members have a duty to report any and all suspected cases as part of compliance with this Code, including reporting to relevant authorities or regulatory bodies where necessary.		The documented Fairtrade policy for corruption prevention was not found online. Also, no information on this topic was found in relevant disclosure reports (e.g., Monitoring Report 14th
	Corruption: the abuse of entrusted power for private gain. Fairtrade Member: organization contributing to the delivery of Fairtrade's governance and organization including Fairtrade International's Central Office; FLOCERT; Regional and sub-regional Fairtrade Producer Networks and offices; National or Regional Fairtrade Organizations and Fairtrade Marketing Organizations.		edition, Annual Report 2021-2022). To complement this indicator, further investigation would be useful to understand if these policies have been adopted and implemented in the organizations after the publication of the code. Further investigation on the resolution of

Indicator	Evidence	Outcome	Justification
	FT_AP_v2.0 2.15.1 *The assurance provider has a written procedure to manage allegations and complaints which shall be made publicly available. The procedure has to be aligned with the Fairtrade International complaint procedures as described in the Oversight Procedures.		allegations would also be relevant, as failure in these aspects could lead to shortcomings in covering this indicator. Nonetheless, to the extent of information available, this indicator was classified as FC.
	 FT OP v2.1 Allegation is an accusation, made by a third party against a Fairtrade organisation, claiming that this organisation violated the Fairtrade standards, Fairtrade policies and procedures, or other contractual obligations with Fairtrade International, or is damaging Fairtrade International's reputation or is misusing the FAIRTRADE Certification Mark and is in breach of its certification or license agreement. Such an allegation can be filed by any party, including but not limited to, a Fairtrade organisation, a non-governmental organisation (NGO), a labour union, a worker or a member of the public. 6.1.1 Any interested party can submit an allegation against the Assurance Provider or Licensing body, approved by Fairtrade International, which is related to a non-compliance to the RAPs or RLBs. 6.1.2 The allegation shall be presented in writing to the Assurance Manager, sent to assurance@fairtrade.net, accompanied by evidence of the claim. FLO ALL v20 This Standard Operating Procedure outlines the principles and responsibilities with regards to allegations. Furthermore, it describes the process for handling allegations. 5.1 Submission 5.2 Confirmation 5.3 Investigation 5.4 Response FLOCERT online channel to submit an allegation, appeal or complaint: https://www.flocert.net/submit-an-allegation-appeal-or-complaint/ 		

Annex 5 – Full application of the assessment framework to Forest Stewardship Council (FSC)

Indicator	Evidence	Outcome	Justification
A.1.1	FSC P&C v5.3 Principle 6: Environmental Values and Impacts 6.9. The Organization* shall not convert natural forest* or High Conservation Value* areas to plantations* or to non-forest land use, nor transform plantations on sites directly converted from natural forest to non-forest land use, except when the conversion:	PC	The P&C standard requires that organizations shall not convert natural forest or HCV areas to plantations or to non-forest land use, nor transform plantations on sites directly converted from natural forest to non-forest land use.
	 a) affects a very limited portion* of the Management Unit*, and b) will produce clear, substantial, additional, secure long-term conservation and social benefits in the Management Unit, and c) does not damage or threaten High Conservation Values, nor any sites or resources necessary to maintain or enhance those High Conservation Values. 		FSC does not adopt the same terms as the EUDR, as shown in the next indicator. But by interpretation, it is possible to assume that this requirement can cover both deforestation (i.e., if the forest or plantation is converted into non-forest land use) and forest degradation (i.e., if the forest is converted into plantations) in the terms
	 6.10. Management Units* containing plantations* that were established on areas converted from natural forest* between 1 December 1994 and 31 December 2020 shall not qualify for certification, except where: a) the conversion affected a very limited portion* of the Management Unit 		of the EUDR, as specified in the guidelines for this indicator. Thus, this requirement aligns with the definition of deforestation-free.
	 and is producing clear, substantial, additional, secure long term conservation* benefits in the Management Unit, or b) The Organization* which was directly or indirectly involved in the conversion demonstrates restitution of all social harms and proportionate remedy of environmental harms as specified in the applicable FSC Remedy Framework, or 		On the other hand, natural forest and HCV areas do not encompass all possible vegetation classified as forest according to EUDR, which adopts a broader concept. Thus, deforestation and forest degradation are possible in the case of forests falling without the scope of natural
	c) The Organization which was not involved in conversion but has acquired Management Units where conversion has taken place demonstrates restitution of priority social harms and partial remedy of environmental harms as specified in the applicable FSC Remedy Framework.		forests and HCV areas, but yet within the scope of forests according to the EUDR. Moreover, this conversion is allowed under a few circumstances, such as affecting a very limited
	F. Glossary of Terms High Conservation Value (HCV): Any of the following values:		portion of the management unit (i.e., not exceeding 5%), producing a clear, substantial
	HCV1 - Species Diversity. Concentrations of biological diversity*		additional, secure long-term conservation and

Indicator	Evidence	Outcome	Justification
	 including endemic species, and rare, threatened or endangered* species, that are significant at global, regional or national levels. HCV 2 - Landscape-level ecosystems and mosaics. Intact forest landscapes and large landscape-level ecosystems* and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring. 		social benefits in the management unit, and last not damaging or threatening HCV areas. This i further reinforced in the FSC Policy for conversion.
	 HCV 3 - Ecosystems and habitats. Rare, threatened, or endangered ecosystems habitats* or refugia* 		classified as PC.
	 HCV 4 - Critical ecosystem services. Basic ecosystem services* in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes. 		
	 HCV 5 - Community needs. Sites and resources fundamental for satisfying the basic necessities of local communities or Indigenous Peoples* (for example for livelihoods, health, nutrition, water), identified through engagement with these communities or Indigenous Peoples. 		
	 HCV 6 - Cultural values. Sites, resources, habitats and landscapes* of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or Indigenous Peoples, identified through engagement with these local communities or Indigenous Peoples. 		
	Management Unit: A spatial area or areas submitted for FSC certification with clearly defined boundaries managed to a set of explicit long term management objectives which are expressed in a management plan.		
	Natural forest: A forest area with many of the principal characteristics and key elements of native ecosystems, such as complexity, structure and biological diversity, including soil characteristics, flora and fauna, in which all or almost all the trees are native species, not classified as plantations.		
	Plantation: A forest area established by planting or sowing with using either alien or native species, often with one or few species, regular spacing and even ages, and which lacks most of the principal characteristics and key elements of natural		

Indicator	Evidence	Outcome	Justification
	forests.		
	The Organization: The person or entity holding or applying for certification and therefore responsible for demonstrating compliance with the requirements upon which FSC certification is based.		
	Very limited portion: The affected area shall not exceed 5% of the Management Unit irrespective of whether the conversion activities have taken place prior to or after The Organization is awarded with FSC Forest Management certification.		
	FSC CON v1.0 4. Conversion* after 31 December 2020 is generally4 considered unacceptable by FSC.		
	 6. FSC accepts minimal conversion* of natural forests* that: a. Affects a very limited portion* of the management unit, and b. Will produce long-term* conservation* and social benefits in the management unit, and c. Does not threaten High Conservation Values*, nor any sites or resources 		
A 1 D	necessary to maintain or enhance those High Conservation Values*.	PC	ESC does not adopt the same terms as the
A.1.2	FSC GLOSSARY Forest: A tract of land dominated by trees (Derived from FSC Guidelines for Certification Bodies, Scope of Forest Certification, Section 2.1 first published in 1998, and revised as FSC-GUI-20-200 in 2005, and revised again in 2010 as FSC-DIR-20-007 FSC Directive on Forest Management Evaluations, ADVICE-20-007 (01)	rc	EUDR (i.e., deforestation and forest degradation), which makes challenging to assess this indicator. Thus, a mixed approach of considering the definitions provided in the FSC Glossary and the content of the requirements linked to the topic was used.
	 Natural Forest: A forest area with many of the principal characteristics and key elements of native ecosystems, such as complexity, structure and biological diversity, including soil characteristics, flora and fauna, in which all or almost all the trees are native species, not classified as plantations. 'Natural forest' includes the following categories: Forest affected by harvesting or other disturbances, in which trees are being or have been regenerated by a combination of natural and artificial 		First of all, the definition of forest does not match the one adopted by the EUDR. However, since it is very general (i.e., a tract of land dominated by trees), it is likely to encompass the definition from the EUDR (i.e., land spanning more than 0.5 ha with trees higher than 5 metres and a canopy cover of more than 10%, or trees able to reach those thresholds in situ excluding land that is

Indicator	Evidence	Outcome	Justification
	ecosystems of that site, may be considered as natural forest, and this regeneration is not by itself considered as conversion to plantations.		
	FSC P&C v5.3 The description of natural forests and their principal characteristics and key elements may be further defined in FSC Forest Stewardship Standards, with appropriate descriptions or examples. Natural forest does not include land that is not dominated by trees, was previously not forest, and that does not yet contain many of the characteristics and elements of native ecosystems. Young regeneration may be considered as natural forest after some years of ecological progression. FSC Forest Stewardship Standards may indicate when such areas may be excised from the Management Unit, should be restored towards more natural conditions, or may be converted to other land uses. FSC has not developed quantitative thresholds between different categories of forests in terms of area, density, height, etc. FSC Forest Stewardship Standards may provide such thresholds and other guidelines, with appropriate descriptions or examples. Pending such guidance, areas dominated by trees, mainly of native species, may be considered as natural forest.		
A.1.3	 FSC P&C v5.3 6.10. Management Units* containing plantations* that were established on areas converted from natural forest* between 1 December 1994 and 31 December 2020 shall not qualify for certification, except where: a) the conversion affected a very limited portion* of the Management Unit and is producing clear, substantial, additional, secure long term conservation* benefits in the Management Unit, or b) The Organization* which was directly or indirectly involved in the conversion demonstrates restitution of all social harms and proportionate remedy of environmental harms as specified in the applicable FSC Remedy Framework, or c) The Organization which was not involved in conversion but has acquired Management Units where conversion has taken place demonstrates restitution of priority social harms and partial remedy of environmental harms as specified in the applicable FSC Remedy Framework. 	FC	As discussed in the previous indicator, deforestation and forest degradation are linked to the prohibition of conversion of natural forest and HCV areas. Thus, the cut-off date defined in criterion 6.11 applies to this indicator. This date is previous to the one adopted in the EUDR. Therefore, this indicator was classified as FC.

Indicator	Evidence	Outcome	Justification
	 6.11. Management Units* shall not qualify for certification if they contain natural forests* or High Conservation Value* areas converted after 31 December 2020, except where the conversion: a) affected a very limited portion* of the Management Unit, and b) is producing clear, substantial, additional, secure long-term conservation* and social benefits in the Management Unit, and c) c) did not threaten High Conservation Values, nor any sites or resources necessary to maintain or enhance those High Conservation Values. 		
A.2.1	 FSC P&C v5.3 Principle 1: Compliance with Laws The Organization* shall comply with all applicable laws*, regulations and nationally- ratified* international treaties, conventions and agreements. FSC CoC v3.1 6 Compliance with timber legality legislation 6.1 The organization shall ensure that its FSC-certified and controlled wood products or timber products conform to all applicable timber legality legislation. 7 FSC core labour requirements 7.1 In the application of the FSC core labour requirements, the organization shall give due consideration to the rights and obligations established by national law, while at the same time fulfilling the objectives of the requirements. Annex E. Terms and definitions Timber legality legislation: National or international legislation established to ban the illegal trade of forest products (e.g., EU Timber Regulation (EUTR), US Lacey Act Australian Illegal Logging Prohibition Act) 	FC	Principle 1 of the P&C standard deals with compliance with laws. This standard applies to all forest management units under the FSC system, regardless of the scope. Moreover, the CoC standard requires compliance with all applicable timber legality legislation, as well as labour rights and obligations established by national law. Thus, this indicator was classified as FC.
A.2.2	 FSC P&C v5.3 Principle 1: Compliance with Laws 1.1. The Organization* shall be a legally defined entity with clear, documented and unchallenged legal registration*, with written authorization from the legally competent* authority for specific activities. 1.2. The Organization* shall demonstrate that the legal status* of the Management Unit*, including tenure* and use rights*, and its boundaries, are clearly defined. 1.3. The Organization* shall have legal* rights to operate in the Management Unit*, which fit the legal status* of The Organization and of the Management Unit, 	PC	Principle 1 of the P&C standard covers compliance with laws and is composed of criteria related to tenure and use rights, rights to operate, rights to harvest, trade, and corruption, for example. These criteria fully cover item (a) and partially cover items (c) and (h). Principle 3 and 4 address third parties' rights, more specifically indigenous people and local communities. The organization is required to identify, recognize, and uphold the legal and

Indicator	Evidence	Outcome	Justification
	and shall comply with the associated legal obligations in applicable national and		customary rights of these groups. Managemen
	local laws* and regulations and administrative requirements. The legal rights shall		activities are required to respect the principle of
	provide for harvest of products and/or supply of ecosystem services* from within		FPIC. Thus, coverage of items (d) and (g) wa
	the Management Unit. The Organization shall pay the legally prescribed charges		identified. Principle 2 covers workers' rights an
	associated with such rights and obligations.		employment conditions, which are not strictl
	1.4. The Organization* shall develop and implement measures, and/or shall		linked to legislation, but are based on ILC
	engage with regulatory agencies, to systematically protect the Management Unit*		documents. Several other environmenta
	from unauthorized or illegal resource use, settlement and other illegal activities.		requirements are set throughout the standard
	1.5. The Organization* shall comply with the applicable national laws*, local		which are also not strictly linked to legislation
	laws*, ratified* international conventions and obligatory codes of practice*.		Thus, compliance with legislation related to item
	relating to the transportation and trade of forest products within and from the		(b). (e) and (f) is not objectively set in the criteria
	Management Unit*, and/or up to the point of first sale.		Another step was taken to investigate how thes
	1.6. The Organization* shall identify, prevent and resolve disputes over issues of		requirements are translated into indicators.
	statutory or customary law*, which can be settled out of court in a timely manner.		
	through engagement* with affected stakeholders*.		The standard for Generic Indicators sets th
	1.7. The Organization* shall publicize a commitment not to offer or receive bribes		baseline for national standards development
	in money or any other form of corruption, and shall comply with anti-corruption		groups to develop National FSS. In this process
	legislation where this exists. In the absence of anti-corruption legislation. The		indicators and verifiers are developed for th
	Organization shall implement other anti-corruption measures proportionate to the		assessment of ESC P&C According to th
	scale* and intensity* of management activities and the risk* of corruption.		standard, national standards development
			groups are to complete a list of all applicable
	Principle 2: Workers Rights and Employment Conditions		laws, obligatory codes of practice and legal an
	2.1. The Organization* shall uphold* the principles and rights at work as defined		customary rights at the national and, when
	in the II O Declaration on Fundamental Principles and Rights at Work (1998)		applicable sub-national level The minimum li
	based on the eight II O Core Labour Conventions		of applicable laws is described in Table A which
			includes topics covering items (a), (b), (c), (d
	Principle 3: Indigenous Peoples' Rights		(e), (a) and (b). However, by checking the for
	3.1. The Organization* shall identify the Indigenous Peoples* that exist within the		ESS developed for Brazil and Chile, only th
	Management Unit* or are affected by management activities. The Organization		Brazilian FSC standard for SLIME fully mappe
	shall then through engagement* with these Indigenous Peoples identify their		the applicable laws with a complete li
	rights of tenure* their rights of access to and use of forest resources and		presented in Appendix 2 The other standard
	ecosystem services*, their customary rights* and legal rights and obligations that		had different scopes of applicable legislation
	apply within the Management Unit The Organization shall also identify areas		related indicators. Thus, this broad coverage of
	where these rights are contested		legislation topics does not seem to apply to a
	3.2 The Organization* shall recognize and unhold* the legal and customary		ESS which might fall chart for some countries
maioutor	Evidence	outcome	Custinication
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	rights* of Indigenous Peoples* to maintain control over management activities within or related to the Management Unit* to the extent necessary to protect their		As for the CoC standard the organization is
	rights, resources and lands and territories. Delegation by Indigenous Peoples of		required to give due consideration to the rights
	control over management activities to third parties requires Free. Prior and		and obligations established by national law
	Informed Consent*.		related to labour, thus covering item (e).
			Furthermore, the standard requires compliance
	Principle 4: Community Relations		with timber legality legislation, which is defined
	4.1. The Organization* shall identify the local communities* that exist within the		as national or international legislation established
	Management Unit* and those that are affected by management activities. The		to ban the illegal trade of forest products. In the
	Organization shall then, through engagement* with these local communities*,		case of organizations exporting FSC products to
	identify their rights of tenure*, their rights of access to and use of forest resources		the EU, the EUTR would be the relevant timber
	and ecosystem services*, their customary rights* and legal rights and obligations,		legality legislation. Therefore, by extension,
	that apply within the Management Unit.		applicable legislation under the EUTR includes
	4.2. The Organization' shall recognize and uphold' the legal and customary		the following topics: rights to harvest timber;
	rights" of local communities" to maintain control over management activities		payments for harvest rights and timber; timber
	within of related to the Management Unit" to the extent necessary to protect their rights resources lands and territories. Delogation by traditional peoples* of		harvesting, including environmental and lorest
	control over management activities to third parties requires Free Prior and		biodiversity conservation where directly related
	Informed Consent*		to timber baryesting: third parties' legal rights
	informed Consent .		concerning use and tenure that are affected by
	ESC GL v2 0		timber harvesting: trade and customs. This would
	The IGL (Section F) contain ten Annexes that provide Standard Developers with a		cover, to different degrees, items (a), (c), (d) and
	framework to assist them with meeting specific requirements of the standard.		(h). Compliance with legislation related to items

Outcome Justification

framework to assist them with meeting specific requirements of the standard. Their compulsory nature is reflected at the beginning of each Annex and summarized in the following table, expressed according to ISO 'verbal forms for the expression of provisions' as 'shall', 'should', etc.

Indicator Evidence

Principle 1, Annex A: Minimum list of applicable laws, regulations and nationallyratified international treaties, conventions and agreements.

Standard Developers shall complete a list of all applicable laws, obligatory codes of practice and legal and customary rights at the national and, where applicable, sub-national level as outlined in Annex A. This list shall be included in the National Standard or the Interim National Standard. The minimum list includes: 1. Legal rights to harvest:

1.1 Land tenure and management rights; 1.2 Concession licenses; 1.3

It is important to highlight that the CoC standard directly mentions the EUTR under the requirement for conformity with timber legality legislation. Thus, the mismatch is a reflection of the differences in the definitions of applicable/ relevant legislation adopted by the two regulations. In case the standard is updated to instead include the EUDR, this scenario would

(b), (f) and (g) was not identified (noting that the

latter might not be applicable for organizations

under the CoC standard).

Indicator	Evidence	Outcome	Justification
	Management and harvesting planning; 1.4 Harvesting permits.		change.
	2. Taxes and fees:		
	2.1 Payment of royalties and harvesting fees; 2.2 Value added taxes and		Overall, the FSC standards covers a high extent
	other sales taxes; 2.3 Income and profit taxes.		of the relevant legislation listed in the EUDR, with
	3. Timber harvesting activities:		some gaps. Thus, this indicator was classified as
	3.1 Timber harvesting regulations; 3.2 Protected sites and species3; .3		PC.
	Environmental requirements; 3.4 Health and safety; 3.5 Legal		
	employment.		
	4. Third parties' rights:		
	4.1 Customary rights; 4.2 Free, prior and informed consent; 4.3		
	Indigenous Peoples' rights.		
	5. Trade and transport:		
	5.1 Classification of species, quantities, qualities; 5.2 I rade and		
	transport; 5.3 Offshore trading and transfer pricing; 5.4 Customs		
	regulations.		
	6. Due diligence/due care:		
	0. I Due dingence/due care procedures.		
	<u>FSC_CoC_v3.1</u>		
	6 Compliance with timber legality legislation		
	6.1 The organization shall ensure that its FSC-certified and controlled wood		
	products or timber products conform to all applicable timber legality legislation. At		
	a minimum, the organization shall:		
	a) have procedures in place to ensure the import and/or export and		
	commercialization of FSC-certified and controlled wood products by the		
	organization conform to all applicable trade and customs laws (if the		
	organization exports and/or imports FSC products);		
	b) upon request, collect and provide information on species (common and		
	scientific hame) and country of harvest (of more specific location details if		
	ergenizations further down the supply chain that need this information to		
	comply with timber legality legislation. The form and frequency of		
	providing this information may be agreed upon between the organization		
	and the requester as long as the information is accurate and can be		
	and the requester, as fony as the information is accurate and call be correctly associated with each material supplied as ESC certified or ESC		
	correctly associated with each material supplied as 130 certified of FSC		

indicator Evidence	or Evidence
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Controlled Wood.

c) provide proof of compliance with relevant trade and customs laws.

7 FSC core labour requirements

7.1 In the application of the FSC core labour requirements, the organization shall give due consideration to the rights and obligations established by national law, while at the same time fulfilling the objectives of the requirements.

7.2 The organization shall not use child labour.

7.3 The organization shall eliminate all forms of forced and compulsory labour.

7.4 The organization shall ensure that there is no discrimination in employment and occupation.

7.5 The organization shall respect freedom of association and the effective right to collective bargaining.

Annex E. Terms and definitions

Timber legality legislation: National or international legislation established to ban the illegal trade of forest products (e.g. EU Timber Regulation (EUTR), US Lacey Act, Australian Illegal Logging Prohibition Act).

FSC BR SLIMF v3.2

1.1. Forest management shall respect all national and local laws and administrative requirements.

1.1.1. There shall be no evidence of non-compliance with the applicable legislation and administrative requirements by the forest management enterprise.

1.3. In signatory countries, the provisions of all binding international agreements such as CITES4 (Convention on International Trade of Flora and Fauna Species Threatened with Extinction), ILO (International Labour Organization), ITTA (International Agreement On Tropical Timber) and the Convention On Biological Diversity7 shall be respected.

1.3.1. There shall be no evidence of violation of applicable requirements of any international agreements ratified by Brazil and listed in the Brazilian SLIMF standard.

APPENDIX 2 - LIST OF KEY LAWS APPLIED TO FOREST IN BRAZIL Includes several laws, under the following categories: Environmental and Forestry Law, Normative Instructions - MMA, Normative Instructions - Instituto

Lvidence	Outcome	Justinication
Chico Mendes de Conservação da Biodiversidade, Normative Instructions - IBAMA, Normative Instructions CTNBio (National Technical Commission on Biosafety), Regulamentory Instructions – Ministery of Work and Employ, Decrees, CONAMA Resolutions, Provisional Measures, Ordinances. APPENDIX 3 - LIST OF MULTILATERAL AGREEMENTS AND ILO CONVENTIONS RATIFIED BY BRAZIL		
 FSC BR TF v1.1 P1.c1 Forest management shall respect all national and local laws and administrative requirements. P1.c1.il. Exist knowledge and obedience, by the decision makers of the forest management unit of the laws applied to the activities developed in the forest management unit, keeping in mind the peculiarities and the scale of the project. P1.c1.i2 The forest managers are aware of the laws applied to the activities for which they are responsible. P1.c1.i3. The responsible for the forest management unit made available for consultation of their team and other interested parties to information about the applicable legislation relating to the activities. P1.c1.i4. The forest management unit is registered with the competent environmental agencies, has the required documentation approved and available for the certification body, such as: management plan; annual plan of operations; and proof of environmental license, according to the scale of the project and the specific requirements of the legislation. P1.c1.i5. The party responsible for the execution of the management plan is a legally licensed professional, with a contract which reflects an appropriate amount of his/her time dedicated to the project based on the scale of the enterprise. P1.c1.i6. The forest management plan has an assured commitment to the maintenance of forest cover, in accordance with the applicable law. P1.c1.i7. Within the forest management unit, the permanent preservation areas are not subject to harvest nor have their physical integrity affected, in accord with the existing legislation. 		
 FSC CH PF 1.1.1 The Forest Management Project (FMP) complies with environmental, forestry, indigenous, labour, health and other laws applicable according to the		

Indicator	Evidence	Outcome	Justification
	 project or activity nature. 1.1.2 The FMP demonstrates that there are not major or reiterated law incompliance and or sanctioned by law. 1.1.3 El FMP has an internal monitoring system of law compliance or incompliance amendment. 1.1.4 The FMP has available instructions about related legislation and norms, and they are known by its users. 1.1.5 In the PMF there is an already implemented training program on related legislations and norms address to the employees/workers and to involved forest landowners. 		
	FSC CH BN 1.1.1 Se aplican las leyes y sus reglamentos técnicos: DL 701, Ley 19.300, Código del Trabajo, Ley de Bosque y Otras que sean aplicables al ámbito del proyecto o actividad. 1.1.2 No se presentan incumplimientos graves, reiterados y sancionados por la autoridad. 1.1.3 Existe un programa o la debida capacitación en legislación y normativas pertinentes al provecto en desarrollo del personal y propietarios involucrados.		
A.2.3	 FSC P&C v5.3 3. Scope The Principles and Criteria cover all of The Organization's management activities that are related to the Management Unit, whether within the Management Unit or outside; whether directly undertaken or contracted out. F. Glossary of Terms Workers: All employed persons including public employees as well as 'self-employed' persons. This includes part-time and seasonal employees, of all ranks and categories, including laborers, administrators, supervisors, executives, contractor employees as well as self-employed contractors and sub-contractors. 	PC	The P&C standard states that the requirements set out in this document cover all of the organization's management activities related to the management unit, including if they are contracted out. Thus, all the abovementioned requirements are extended to subcontractors. The standard for FM evaluation provides further evidence on the inclusion of subcontractors in the scope of FSC certification. It sets specific requirements for checks on forestry contractors
	FSC FME v4.0 8.5. Sampling process for forestry contractors included in the scope of group certification		included in the scope of group certification, as the standard for FM groups deals in detail with the inclusion of forestry contractors.

Indicator	Evidence	Outcome	Justification
	group shall be calculated according to the formula in Table 6. The calculated number of forestry contractors shall be rounded to the upper whole number to determine the actual size of the sample.		requirements for organizations outsourcing activities to non-FSC-CoC-certified contractors. In this scenario, contractors must sign as
	FSC CoC v3.1		certification requirements and the organization's
	13 Outsourcing		procedures related to the outsourced activity.
	13.1 The organization may outsource activities within the scope of its certificate to		However, applicable certification requirements
	FSC-CoC-certified and/or non-FSC-CoC-certified contractors.		listed are mostly related to the management of
	13.2 Activities that are subject to outsourcing agreements are those that are		the outsourced material (e.g., use of trademarks,
	included in the scope of the organization's CoC certificate, such as purchase,		accepting audits, not mixing material, record
	processing, storage, labelling and invoicing of products.		keeping etc), and the standard does not mention
	13.3 Prior to outsourcing activities to a new contractor, the organization shall		the need of compliance with legislation by the
	inform its certification body about the outsourced activity, name, and contact		contractor.
	details of the contractor.		The CoC evolution standard acts requirements
	TS.4 The organization shall establish an outsourcing agreement with each non-		for checks on contractors operating under
	 a) conform to all applicable certification requirements and the organization's procedures related to the outsourced activity; 		outsourcing agreements. The assessment is focused on monitoring the CoC system applied
	b) not make unauthorized use of the FSC trademarks (e.g., on the		throughout outsourcing arrangements. It does
	contractor s products or wobsite):		other topics addressed in the CoC standard
	c) not further outsource any processing.		Thus this indicator was classified as PC.
	d) accept the right of the organization's certification body to audit the		
	contractor:		
	e) notify the organization within the period of 10 business days if the		
	is included in the list of organizations that are disassociated from ESC in		
	accordance with the FSC-POL-01-004. and therefore subsequently		
	ineligible to provide outsourcing services to FSC-certified organizations.		
	13.5 The organization shall provide documented procedures to its non-FSC		
	certified contractor(s) that ensure the following:		
	a) the material under the contractor's responsibility shall not be mixed or		
	contaminated with any other material during the outsourced activity;		
	b) the contractor shall keep records of inputs, outputs, and delivery		
	documentation associated with all material covered by the outsourcing		

Indicator	Evidence	Outcome	Justification
	 agreement; c) if the contractor applies the FSC label to the product on behalf of the organization, the contractor shall only label the eligible products produced under the outsourcing agreement. 13.6 The organization shall maintain legal ownership of all materials during outsourcing. 13.7 The organization shall identify the sales or delivery documents (or both) of materials sent for outsourcing following the requirements specified in Clause 5.1. Contractors are not required to identify the invoices of materials after outsourcing. 13.8 The organization may act as an FSC-certified contractor providing services to other contracting organizations. In this case, the organization shall include the outsourcing services under the scope of its FSC certificate ensuring that all applicable certification requirements are met. 13.9 The FSC-certified contractor shall ensure that they have a copy of the invoice(s) from the delivering supplier(s) and, if not identical, from the billing supplier(s) that include(s) information sufficient to link the invoice(s) and related transport documentation to each other. 		
	FSC CoCE v2.4 9 Evaluation of contractors operating under outsourcing agreements 9.1 The certification body shall monitor the chain of custody system applied throughout outsourcing arrangements to ensure conformance to all applicable requirements of the FSC normative documents. The certification body shall confirm that the risks associated with mixing, substitution, or false claims by the organization or the contractor are controlled.		
B.1.1	FSC CoC v3.1 B Scope This is the core standard for FSC CoC certification that specifies the requirements which apply to all CoC-certified and applicant organizations with respect to sourcing, processing, labelling, and sale of forest-based products as FSC certified.	FC	CoC certification applies to all organizations sourcing, processing, labelling, and selling forest- based products as FSC certified.
	For a product to be claimed as FSC certified, there must be an unbroken chain of organizations independently certified by FSC-accredited certification bodies		

Indicator	Evidence	Outcome	Justification
	 covering every change in legal ownership of the product from the certified forest or point of reclamation up to the organization selling it with an FSC claim on sales documents and/or to the point where the product is finished and FSC labelled. CoC certification is therefore required for all organizations in the supply chain of forest-based products that have legal ownership of certified products and perform at least one of the following activities: a) sell FSC-certified products with FSC claims on sales documents; b) label products as FSC certified; c) manufacture or change the composition (e.g. mixing or adding forest-based materials to the product) or physical integrity (e.g. re-packaging, re-labelling) of products sold with FSC claims; d) promote FSC-certified products, except finished and FSC-labelled products that may be promoted by non-certificate holders (e.g. retailers) in accordance with FSC Trademark Use Guide For Promotional Licence Holders. 		
B.1.2	 FSC CoC v3.1 CoC management system 1.1 The organization shall implement and maintain a CoC management system adequate to its size and complexity to ensure its continuous conformity to all applicable certification requirements, including the following: e) maintain complete and up-to-date records of the documents that are relevant to demonstrate the organization's conformity with all applicable certification requirements which shall be retained for a minimum period of five (5) years. At a minimum, the organization shall keep records of the following documents as applicable to the certificate scope: procedures, product group lists; training records; purchase and sales documents; material accounting records; annual volume summaries; trademark approvals; records of suppliers, complaints, and outsourcing; control of non-conforming products; verification program records for reclaimed material, and records related to a due diligence program for controlled material and FSC Controlled Wood. 4 FSC material and products records 4.1 For each product group or job order, the organization shall identify the main processing stops involving a change of material volume or weight and apolic. 	PC	The CoC standard provides a series of requirements for record-keeping of FSC products. All purchase and sales documents must be kept for 5 years. Records include, among others, the organization name and contact details, information to identify the customer, date, product name and description, and quantity. Furthermore, in the case of timber legality legislation, the organization must collect and provide information on species (common and scientific name) and country of harvest (or more specific location details if required by legislation) when requested. Thus, FSC products entering the EU can be traced back to their origin, and information related to items (a), (b), (c), (e) and (f) should be available. The geolocation of the plot of land (e.g., MU from which the wood originates from) and time range of production are not addressed.

Indicator	Evidence	Outcome	Justification
	 conversion factor(s) for each processing step or, if not feasible, for the total processing steps. The organization shall have a consistent methodology for calculating conversion factor(s) and shall keep them up to date. 4.2 The organization shall maintain up-to-date material accounting records (e.g. spreadsheets, production control software) of materials and products in the scope of the FSC certificate, including: a) inputs: supplier's sales document number, date, quantities, and material category including the percentage or credit claim (if applicable); b) outputs: sales document number, date, product description, quantities, FSC claim, and applicable claim period or job order; 		This indicator was classified as PC.
	c) FSC percentage calculations and FSC credit accounts.		
	 5 Sales 5.1 The organization shall ensure that sales documents (physical or electronic) issued for products sold with FSC claims include the following information: a) name and contact details of the organization; b) information to identify the customer, such as name and address of the customer (except for sales to end consumers); c) date when the document was issued; d) product name or description; e) quantity of products sold; f) the organization's FSC certificate code associated with FSC-certified products and/or FSC Controlled Wood code associated with FSC controlled Wood products; g) a clear indication of the FSC claim for each product item or the total 		
	 6 Compliance with timber legality legislation 6.1 The organization shall ensure that its FSC-certified and controlled wood products or timber products conform to all applicable timber legality legislation. At a minimum, the organization shall: b) upon request, collect and provide information on species (common and scientific name) and country of harvest (or more specific location details if required by legislation) to direct customers and/or any FSC-certified organizations further down the supply chain that need this information to comply with timber legality legislation. The form and frequency of 		

Indicator	Evidence	Outcome	Justification
	providing this information may be agreed upon between the organization and the requester, as long as the information is accurate and can be correctly associated with each material supplied as FSC certified or FSC Controlled Wood.		
B.2.1	 FSC CoC v3.1 1 CoC management system 1.1 The organization shall implement and maintain a CoC management system adequate to its size and complexity to ensure its continuous conformity to all applicable certification requirements, including the following: a) appoint a management representative who has overall responsibility and authority for the organization's conformity to all applicable certification requirements; b) implement and maintain up-to-date documented procedures covering the 	FC	The CoC standard requires that all FSC product groups are kept segregated when there is risk of mixing with non-eligible inputs. This can be done by physical separation, temporal separation, or identification of materials. The segregation of FSC products is also required when they are handled by subcontractors. Thus, this aspect is covered.
	 c) implementation and maintain up to data documented procedure covering the certification requirements applicable to the scope of the certificate; c) define the key personnel responsible for the implementation of each procedure; d) train staff on the up-to-date version of the organization's procedures to ensure their competence in implementing the CoC management system; e) maintain complete and up-to-date records of the documents that are relevant to demonstrate the organization's conformity with all applicable certification requirements which shall be retained for a minimum period of five (5) years. 		Furthermore, the CoC standard requires that the organization implements and maintain a CoC management system to ensure continuous conformity to all applicable certification requirements. This includes: appointing a management representative; implementing and maintaining up-to-date documented procedures; defining personnel responsible for the implementation of each procedure; and training staff on the organization's procedures. Thus
	3 Material handling 3.1 In cases where there is a risk of non-eligible inputs entering FSC product groups, the organization shall implement one or more of the following segregation methods:		procedures related to the segregation of standard-compliant material are covered by this requirement. Overall, this indicator was classified as FC.
	 b) temporal separation of materials; c) identification of materials. 		However, it should be noted that FSC allows for the mixing of certified and non-certified material, which generates different claims for the products.
	9 I ransfer system The transfer system is an FSC control system which provides the simplest approach for the determination of output claims by transferring the FSC claims of inputs materials directly to the output products. Through segregation from		These can be: FSC 100%, FSC Mix x%, FSC Mix Credit, FSC Recycled x%, FSC Recycled Credit, and FSC CW. The output will depend on the inputs and the CoC system adopted (transfer,

Indicator	Evidence	Outcome	Justification
	ineligible materials, the link between input and output material is assured through all stages of an organization's processes.		percentage, or credit).
	The transfer system can be applied to all types of product groups, FSC claims, and activities.		Products claimed as Mix and Credit contain materials covered by different standards, thus covered by different requirements (e.g.,
	10 Percentage system The percentage system is an FSC control system which allows all outputs to be sold with a percentage claim that corresponds to the proportion of claim- contributing inputs over a specified claim period. The percentage system can be applied to FSC Mix and FSC Recycled product groups at the level of a single or multiple physical sites. The percentage system may also be applied to products carrying the FSC Small and Community Label.		differences between P&C and CW standards for compliance with legislation). Therefore, assessing which are the social and environmental attributes of these products is complex. The assessment should account for all relevant standards covering the products, and a conservative approach is recommended (e.g., consider the less stringent requirement).
	11 Credit system The credit system is an FSC control system which allows a proportion of outputs to be sold with a credit claim corresponding to the quantity of claim-contributing inputs and the applicable product group conversion factor(s). The credit system can be used for FSC Mix and FSC Recycled product groups at the level of a single or multiple physical sites.		Only products with FSC100% and FSC CW claims allow to identify the requirements used to assess their production, as they are covered by a single standard. These considerations might be relevant for operators using FSC standards as support to fulfil their due diligence obligations.
	 13 Outsourcing 13.5 The organization shall provide documented procedures to its non-FSC certified contractor(s) that ensure the following: a) the material under the contractor's responsibility shall not be mixed or contaminated with any other material during the outsourced activity. 		Note: recycled materials were not considered in the scope of this investigation.
B.2.2	FSC_CW_FME_v2.0 Scope This standard is applicable to Forest Management Enterprises (FMEs)' that wish to supply FSC Controlled Wood. The intent of this standard is to allow forest management enterprises to supply FSC Controlled Wood to FSC CoC certified operations for mixing with FSC certified materials in production of FSC mixed products. Part 2: FSC Controlled wood categories: 6. Wood harvested from areas being converted from forests and other wooded ecosystems to plantations or non- forest uses	PC	The scheme allows for the mixing of FSC- certified material with material from other sources. However, the material entering the supply chain must comply with CW standards. These standards work in two ends: a) one standard sets requirements for non-FSC- certified FMEs supplying CW (FSC_CW_FME_v2.0); and b) another standard sets requirements for FSC-CoC-certified organizations sourcing CW for their processes

Indicator	Evidence	Outcome	Justification
Indicator	 Evidence 6.1. No conversion of natural and semi-natural forests and other wooded ecosystems such as woodlands and savannahs to plantations or non-forest uses take place, except as permitted by section 6.3 below. 6.2. The Forest Management Enterprise shall keep records to demonstrate compliance with section 6.1 above. 6.3. Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion: a) entails a very limited portion of the FMU b) does not occur on high conservation value forest areas, c) will enable clear, substantial, additional, secure long term environmental and social benefits across the FMU. FSC CW SOU v3.0 Objective 	Outcome	Justification (FSC_CW_SOU_v3.0). The CW standards aim at avoiding the use of material from unacceptable sources. Category 4 is linked to deforestation and forest degradation in the terms of the EUDR. CW must not be sourced from forests being converted to plantations (forest degradation) or non-forest use (deforestation). However, this requirement presents some gaps (similar to what is discussed in indicator 1.1.1 of this framework), as conversion is allowed in a few cases. Therefore, this indicator was classified as PC.
	 This standard outlines the requirements for a due diligence system for FSC Chain of Custody certified organizations to avoid material from unacceptable sources. Material from unacceptable sources cannot be used in FSC Mix products. The five FSC controlled wood categories of unacceptable sources (referred to as controlled wood categories) are: Illegally harvested wood; Wood harvested in violation of traditional and human rights; Wood from forests in which high conservation values are threatened by management activities; Wood from forests being converted to plantations or non-forest use; and Wood from forests in which genetically modified trees are planted. 		
B.2.3	 <u>FSC_CW_FME_v2.0</u> Scope This standard is applicable to Forest Management Enterprises (FMEs)' that wish to supply FSC Controlled Wood. The intent of this standard is to allow forest management enterprises to supply FSC Controlled Wood to FSC CoC certified operations for mixing with FSC certified materials in production of FSC mixed products. 3. Illegally harvested wood 3.1. All harvesting shall take place in compliance with all laws applicable to 	FC	Considering what was exposed in the previous indicator, Category 1 and Category 2 of unacceptable sources are relevant to assess this indicator. The standard for FMEs requires that all harvesting takes place in compliance with laws applicable to harvesting. Several categories related to forest-related rules for harvesting are listed, which addresses item (c) from relevant legislations for the EUDR. The other items are not covered.

Indicator	Evidence	Outcome	Justification
	harvesting in the jurisdiction in accordance with the criteria outlined in table 1. Table 1 includes: a) Evidence of legal authority to harvest, b) Evidence of compliance with applicable management planning requirements, c) Specification of applicable harvesting restrictions, d) Evidence that timber is harvested from authorized areas (e.g. not from protected areas where harvest is not allowed), e) Evidence of timber sales, f) Evidence of payment of royalties or other fees (i.e. fees on harvesting rights), g) Evidence of compliance with applicable provisions and requirements of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), h) Evidence of compliance with requirements in relation to transportation of timber.		On the other hand, the standard for CW sourcing addresses a wider range of legislation. This is linked to the risk assessment that must be conducted under the DDS to assure that wood does not come from unacceptable sources. The organization may use a FSC risk assessment (e.g., a FSC National Risk Assessment covering the country/region of origin), or conducted its own in unassessed areas.
	 4. Wood harvested in violation of traditional and civil rights 4.1. There is evidence of no violation of the International Labor Office (ILO) Fundamental Principles and Rights at Work in the FMU. 4.2. No conflicts relating to land tenure or land use rights of traditional or indigenous peoples groups exist in the FMUs under control of the Forest Management Enterprise for which a resolution process has not been agreed by the main parties to the dispute (see section 4.4 below). 4.3. There is evidence of no violation of the ILO Convention 169 on Indigenous and Tribal Peoples taking place in the FMUs under control of the Forest Management Enterprise. 4.4. The Forest Management Enterprise shall implement a consultation process to identify potential conflicts relating to land tenure or land use rights of traditional or indigenous peoples groups in the areas affected by the Forest Management Enterprise. 		In all cases, risk assessment indicators for Category 1 include evaluation of a minimum list of applicable laws, regulations and nationally ratified international treaties, conventions and agreements. Under this list, a variety of legislation topics address items (a), (b), (c), (d), (e), (g) and (h). Furthermore, risk assessment indicators for Category 2 address item (f). Thus, by combining the CW standard for FMEs and the CW sourcing standard, this indicator was classified as FC.
	 FSC CW SOU v3.0 and FSC NRAF v1.0 List of applicable legislation (both for FSC risk assessments and for organization own assessment) 1. Legal rights to harvest: 1.1 Land tenure and management rights; 1.2 Concession licenses; 1.3 Management and harvesting planning; 1.4 Harvesting permits. 2. Taxes and fees: 2.1 Payment of royalties and harvesting fees; 2.2 Value added taxes and other sales taxes; 2.3 Income and profit taxes. 3. Timber harvesting activities; 3.1 Timber harvesting regulations; 3.2 Protected 		

Indicator	Evidence	Outcome	Justification
	 sites and species3; .3 Environmental requirements; 3.4 Health and safety; 3.5 Legal employment. 4. Third parties' rights: 4.1 Customary rights; 4.2 Free, prior and informed consent; 4.3 Indigenous Peoples' rights. 5. Trade and transport: 5.1 Classification of species, quantities, qualities; 5.2 Trade and transport; 5.3 Offshore trading and transfer pricing; 5.4 Customs regulations. 6. Due diligence/due care: 6.1 Due diligence/due care procedures. 		
B.2.4	 FSC CW SOU v3.0 Implementation and maintenance of a due diligence system 1.1 The organization shall have, implement, and maintain a documented due diligence system (DDS) for material supplied without an FSC claim to be used as controlled material or to be sold with the FSC Controlled Wood claim. 1.2 The organization shall include all suppliers and sub-suppliers of the material assessed according to this standard in its DDS. 1.3 The organization shall ensure that the organization, the certification body, and Accreditation Services International are granted access to evidence of conformity with applicable requirements of this standard, including access to documents, sites, premises of suppliers and sub-suppliers, and supply units, where relevant. 1.6 The organization shall review and, if necessary, revise its DDS at least annually, and whenever changes occur that affect the relevance, effectiveness, or adequacy of the DDS. 1.7 The organization shall implement internal audits of its DDS at least annually to ensure that it is being implemented correctly. 1.8 The organization shall document the scope, dates, and staff involved in internal audits. 1.9 The organization shall document all cases of the DDS being evaluated as ineffective during the internal audit, and shall ensure that all relevant issues are addressed and corrected within 12 months of their detection. 2 Obtaining information on material 2.1 The organization shall obtain, document and maintain the following up-to-date information on material: a) Names and addresses of suppliers; b) Description of the material; c) Quantity of the material purchased by volume or weight; d) The species (including scientific and common name), where the species information 	FC	The scheme requires that organizations certified under the CoC standard and sourcing CW implement a DDS to avoid material from unacceptable sources. Documents, sites, premises of suppliers and sub-suppliers, and supply units should be accessible for evidence of conformity. The DDS must be reviewed at least annually. The organization must conduct internal audits to ensure that the DDS is being implemented correctly. There are also requirements for competence, documentation, and records of the DDS. The DDS includes obtaining information on the material, risk assessment, and risk mitigation (whenever risk assessment does not indicate low risk for an indicator). For organizations conducting their own risk assessments), indicators include: deforestation activity in the country/region of origin, evidence of enforcement of logging related laws in the supply area, evidence of the legality of harvests and wood purchases, no evidence or reporting of illegal harvesting in the supply area, low perception of corruption related to the granting or

Indicator	Evidence	Outcome	Justification
	designates the product characteristics and/or where required by applicable timber legality legislation; e) Purchase documentation; f) Applicable risk assessment; g) The country of harvest, where required by applicable timber legality legislation; h) Evidence of origin, according to 2.2; and i) Information about supply chains, according to 2.3.		issuing of harvesting permits and other areas of law enforcement, no UN Security Council ban on timber exports, supply area not designated a source of conflict timber, no evidence of child labour or violation of ILO Fundamental Principles and Rights at Work, no evidence of violation of
	3 Risk assessment 3.1 The organization shall use the applicable FSC risk assessment to determine the risk related to the origin of the material for each controlled wood category.		the ILO Convention 169 on Indigenous and Tribal Peoples.
	 3.4 The organization shall assess and document the risk of mixing material with non-eligible inputs in its supply chains during transport, processing, and storage. 3.5 The organization may use material as controlled material and/or sell it with the FSC Controlled Wood claim if it has been confirmed as low risk for all indicators in the applicable risk assessment, and there is no risk of mixing with non-eligible inputs in the supply chains. 3.7 Whenever specified or unspecified risk related to origin and/or risk related to mixing with non-eligible inputs in the supply chains. 3.7 Whenever specified or unspecified risk related to origin and/or risk related to mixing with non-eligible inputs in the supply chain is determined, the organization shall implement the requirements of Section 4 before material can be used as 		FSC also conducts national risk assessment, which can be used for organizations when conducting their risk assessment and mitigation. Indicators from the FSC national risk assessment framework vary slightly, but still address the same topics as above. Thus, these indicators cover the main concerns listed by the EUDR of aspects to consider during risk assessment.
	controlled material or sold with the FSC Controlled Wood claim.		When an indicator is not classified as low risk, the organization is required to apply control
	4.1 The organization shall have and implement adequate control measures to either avoid or to mitigate specified or unspecified risk related to origin and/or risk related to mixing with non-eligible inputs in the supply chain. When control measures are to mitigate risk, then the rest of Section 4 applies.		measures to mitigate the fisks. A series of control measures is listed in the CW standard (e.g., stakeholder consultation, document verification, supply chain audits, field verification at the supply unit level). When available, FSC risk assessments classifies the risk for each indicator
	5 Competence, documentation and records 5.1 The organization shall appoint a management representative to be responsible for the organization's conformity with all applicable requirements of this standard.		at the national level, and specifies mandatory and recommended control measures for indicators not classified as low risk.
	 5.2 All relevant staff shall demonstrate awareness of the organization's procedures, and competence in implementing the applicable requirements of this standard. 5.3 The organization shall implement documented procedures covering all applicable requirements of this standard. 		For example, these are some of the indicators not classified as low risk in the FSC National Risk Assessment for Brazil and respective mandatory control measures:

ndicator	Evidence	Outcome	Justification
	5.4 The organization shall maintain records and documentation demonstrating its conformity with this standard, and ensure that they are readily available to the certification body.		1.1 Land tenure and management rights - Chec a list of documentation that guarantees lan ownership / possession and use.
	5.5 The organization shall retain all relevant records for a minimum of five (5) years.		1.10 Environmental requirements - Consult the IBAMA website and/or the state environmentation organizations to verify the existence of
	Annex A Risk assessment by the organization		embargoed areas related to the supply of CW. 2.3. The rights of Indigenous and Tradition
	Controlled wood category 1 – Illegally harvested wood 3.6 Risk assessment indicators		Peoples are upheld - Confront areas of supply controlled wood with areas of indigenou
	 The supply area may be considered low risk in relation to illegal harvesting when all of the following indicators related to forest governance are met. Evidence of enforcement of logging related laws in the supply area (Logging related laws include all categories listed for this standard in the previous indicator) 		populations and/or traditional populations order to verify possible overlap or proximity in range of up to 10 km. 4.1 Conversion of natural forests to plantations non-forest use in the area under assessment
	1.2 There is evidence in the supply area demonstrating the legality of harvests and wood purchases including, for example, robust and effective systems for granting licenses and harvest permits.1.3 There is little or no evidence or reporting of illegal harvesting in the supply area.		less than 0.02% or 5000 hectares average manual loss for the past 5 years - Verify the existence of PMFS and POA for the current year approved by the environmental agency.
	1.4 There is a low perception of corruption related to the granting or issuing of harvesting permits and other areas of law enforcement related to harvesting and wood trade.		The DDS is also a target for the evaluation CoC certification. Thus, due to the completeness of requirements and guidelines for organization to conduct risk assessment and mitigation
	Controlled wood category 2 – Wood harvested in violation of traditional and human rights	d related to CW, this indicator FC.	related to CW, this indicator was classified a FC.
	2. The supply area may be considered low risk in relation to the violation of traditional and human rights when all of the following indicators are met: 2.1 There is no UN Security Council ban on timber exports from the country concerned.		
	2.2 The country or supply area is not designated a source of conflict timber (e.g. USAID Type 1 conflict timber).		
	Principles and Rights at Work taking place in forest areas in the assessed supply		

Indicator	Evidence	Outcome Justification
	 area. 2.4 There are recognized and equitable processes in place to resolve conflicts of substantial magnitude pertaining to traditional rights including use rights, cultural interests or traditional cultural identity in the assessed supply area. 2.5 There is no evidence of violation of the ILO Convention 169 on Indigenous and Tribal Peoples taking place in the forest areas in the supply area concerned. 	
	Controlled wood category 4 – Wood harvested from areas being converted from forests and other wooded ecosystems to plantations or non-forest uses NOTE: The intent of the risk assessment for this category is to reveal risk in regions where there is a significant occurrence of deforestation of natural forests. The organization is encouraged to seek for guidance from FSC network partners and regional offices on the interpretation of 'significant rate of loss' for forests in their countries and regions. 3.10 Risk assessment indicators: 4. The supply area may be considered low risk in relation to conversion of forest to plantations or non-forest uses when the following indicator is met: 4.1 There is no net loss or no significant rate of loss (> 0.5% per year16) of natural forests and other naturally wooded ecosystems such as savannahs taking place in the eco-region in question.	
	Annex E Development guidance and examples of control measures	
	 7 General examples of actions that may be taken as control measures are provided below. For specific examples of control measures for individual risk assessment indicators, see Table B. a) Stakeholder consultation; b) Expert engagement; c) Document verification; d) Supply chain audits; e) Field verification at the supply unit level or supplier's site; f) Third party verification, including specification of the parties required, and acceptable/exemplary methods of verification 	
	g) Tests to confirm species and/or origin, such as DNA tests, isotope tests	

Indicator	Evidence	Outcome	Justification
	 and fibre tests (e.g. to confirm the origin of species covered by CITES); h) Legally binding agreements related to risk mitigation (e.g. conformance commitments with procedures, right to audit at any time, obligations to provide information within a certain time frame) with suppliers and subsuppliers; i) Risk mitigation training and capacity building of suppliers and subsuppliers; j) Exclusion of suppliers. 		
	FSC NRAF v1.0		
	3 Controlled Wood Category 1: Illegally harvested wood		
	Table 1. Requirements for legality assessment (legality categories include all		
	categories listed for this standard in the previous indicator)		
	4 Controlled Wood Category 2: Wood harvested in violation of traditional and		
	human right		
	2.1 The forest sector is not associated with violent armed conflict including that		
	which threatens national or regional security and/or is linked to military control.		
	2.2. Labor rights are upheld including rights as specified in ILO Fundamental		
	Principles and Rights at Work.		
	2.3. The rights of indigenous and traditional peoples are upneto.		
	6 Controlled Wood Category 4: Wood from forests being converted to plantations		
	or non-forest use		
	Table 4. Requirements for the assessment of conversion		
	under assessment is less than 0.02% or 5000 bectares average net annual loss		
	for the past 5 years (whichever is less), OR Conversion is illegal at the national or		
	regional level on public and private land.		
	FSC CoCE v2.4		
	6 Evaluation of controlled wood according to FSC-STD-40-005		
	6.1 The certification body shall conduct stakeholder consultations adequate to the		

Indicator	Evidence	Outcome	Justification
	 size and scale of the organization's due diligence system (DDS) to verify its conformance to applicable requirements. 6.2 The certification body shall design and implement a system for evaluating the relevance, effectiveness, and adequacy of the DDS, according to the scope and scale of the organization's operation. The certification body shall specify and justify in its system the means of verification of risk assessments and control measures established by the organization. 6.3 The certification body shall evaluate whether the DDS has been implemented as designed and in accordance with all applicable requirements and any additional guidance provided or approved by the FSC Performance and Standards Unit. 6.5 The certification body shall verify whether information on material and supply chains allows the organization to: a) confirm the origin of the material; b) conduct a robust risk assessment related to the origin of the material; c) conduct a robust risk assessment related to mixing material with noneligible inputs in supply chains; d) develop and implement adequate control measures; e) review and, if necessary, revise the DDS to ensure its relevance, effectiveness or adequacy 		
C.1.1	FSC NS v1.2 The FSC Principles and Criteria for Forest Stewardship provide an internationally recognised standard for responsible forest management. However, any international standard for forest management needs to be adapted at the national or sub-national level in order to reflect the diverse legal, social and geographical conditions of forests in different parts of the world. The FSC Principles and Criteria therefore require the addition of indicators that are adapted to national or sub-national conditions in order to be implemented at the forest management unit (FMU) level. The FSC Principles and Criteria together with a set of such indicators approved by FSC constitute an FSC Forest Stewardship Standard. This standard may be used by Standards Development Groups that are registered in accordance with FSC-STD-60-006 to develop regional, national or sub-national forest stewardship standards. This standard defines a hierarchical framework which ensures that all FSC Forest Stewardship Standards can be audited in a consistent manner, providing replicable results. Consistency with	PC	 FSC requires the development of National FSS for the assessment of FSC P&C. The scheme provides the following tools to assure the consistency between standards: The standard for Structure and Content of National FSS sets the baseline for the development of FSS in consistency with the international P&C. This standard addresses the specification of scope, the FSC Hierarchical framework, content, development of indicators, numbering, translation, re-structuring of standards, among other aspects.

Indicator	Evidence	Outcome	Justification
	FSC-STD-01-001 FSC Principles and Criteria for Forest Stewardship is ensured through compliance with this standard.		• The standard for Generic Indicators provides a common starting point for the development of indicators for FSS. Indicators for each
	2.1 The standard shall be structured as a hierarchy of Principles, Criteria and		criterion from the international P&C standard
	associated Indicators. As content, structure and numbering of the hierarchical		are provided, with the option to adopt, adapt,
	levels of Principles and Criteria is already provided by FSC, national Standard		drop, or add indicators as appropriate and
	3.1 The standard shall include the wording of each ESC Principle and each ESC		here provided (see general indicators for
	Criterion in the same order as they occur in the current version of ESC-STD-01-		criteria 1.3 and 6.9) it is possible to observe
	001 FSC Principles and Criteria of Forest Stewardship.		how the GI standard is relevant for the
	3.2 The may include additional criteria which are not part of FSC-STD-01-001		consistency of requirements related to the
	FSC. Principles and Criteria of Forest Stewardship may be added to the standard.		EUDR, as assessed in criteria A.1 and A.2.
	4.1 The standard shall specify indicators for each element of every criterion in		Even though FSC has a well stablished system
	accordance to the requirements of this standard.		to assure consistency between standards, there
	4.2 Each indicator shall specify one aspect of compliance rather than multiple		might be some inconstancies affecting aspects
	aspects of compliance.		relevant for the EUDR requirements. One
	and Tangible)		requirements set out in the four ESS developed
	4.5 Every indicator should include examples of means of verification.		for Brazil and Chile in relation to compliance with
	9.1 FSC-approved standards may be re-organised in order to facilitate		laws (differences in the indicators revealed
	implementation in the forest, or to make a standard easier for stakeholders to		different levels of coverage of applicable
	understand as long as requirements are not changed or omitted.		legislation, see indicator A.2.2 for more details).
	9.2 Restructuring shall have no effect on the requirements for compliance or		
	decision making, and in the event of a complaint or appeal the complete		Indicators related to forest conversion also vary
	standard, as approved by the FSC, shall be considered definitive.		among these standards. This reflects on now
	ESC GL V2 0		deperating different types of evidence and
	1. Purpose of the International Generic Indicators		guarantees, which can be more or less stringent.
	The IGI are a set of indicators that address each normative element of each		Therefore, operators using FSC standards as
	Criterion in the FSC Principles & Criteria Version 5-3 (P&C V5-3). They are the		support to fulfil their due diligence obligations
	common starting point for the development and transfer of all Regional and		must considered the relevant FSS, which
	National Forest Stewardship Standards in the FSC system, including Interim		contains the indicators used to assess FSC
	National Standards.		certified forests. Due to the examples of
	4. Annexes		inconsistencies identified, the indicator was

Indicator	Evidence	Outcome	Justification
	The IGI (Section F) contain ten Annexes that provide Standard Developers with a framework to assist them with meeting specific requirements of the standard.		classified as PC.
	1.3 The Organization* shall have legal* rights to operate in the Management Unit*, which fit the legal* status of The Organization* and of the Management Unit*, and shall comply with the associated legal* obligations in applicable national and local laws* and regulations and administrative requirements. The legal* rights shall provide for harvest of products and/or supply of ecosystem services* from within the Management Unit*. The Organization* shall pay the legally prescribed charges associated with such rights and obligations.		
	 1.3.1 All activities undertaken in the Management Unit* are carried out in compliance with: 1) Applicable laws* and regulations and administrative requirements, 2) Legal* and customary rights*; and 3) Obligatory codes of practice*. 		
	 6.9 The Organization* shall not convert natural forest* or High Conservation Value Areas* to plantations* or to non-forest land-use*, nor transform plantations* on sites directly converted from natural forest* to nonforest land-use*, except when the conversion*: a) Affects a very limited portion* of the Management Unit*, and b) Will produce clear, substantial, additional*, secure long-term conservation* and social benefits in the Management Unit*, and c) Does not damage or threaten High Conservation Values*, nor any sites or resources necessary to maintain or enhance those High Conservation Values*. 		
	 6.9.1 There is no conversion* of natural forest* or High Conservation Value Areas* to plantations*, or to non-forest land-use*, nor transformation of plantations* on sites directly converted from natural forest* to nonforest land-use*, except when it: Affects a very limited portion* of the Management Unit*, and Will produce clear, substantial, additional*, secure, long-term conservation* and social benefits in the Management Unit*, and 		

Indicator Evidence	Outcome Justification
 Does not damage or threaten High Conservation Values*, nor a 	any sites
or resources necessary to maintain or enhance those High Cons	servation

FSC BR SLIMF v3.2

Values*.

6.10.1.N Any conversion of forest to plantations or non-forest land within the FMU: a) Does not occur on high conservation value forest areas, and b) Does not affect a total of more than 5% of the area of the FMU, and c) Does not exceed 0.5% of the area of the FMU in any one year and d) Enables clear, substantial, additional, secure, long-term conservation benefits across the FMU.

FSC BR TF v1.1

P6.c10.i1. The converted area is for the subsistence of local communities. P6.c10.i2 Any conversion of forest to plantations or non-forest land within the FMU: a) Does not occur on high conservation value forest areas, and b) Does not affect a total of more than 5% of the area of the FMU, and c) Does not exceed 0.5% of the area of the FMU in any one year and d) Enables clear, substantial, additional, secure, long-term conservation benefits across the FMU.

FSC CH PF

6.10.1 The FMP has procedures to change the land use in agreement with the requirements established in letters "A", "B" and "C" of the criterion.

6.10.2 In the FMP forest conversions for farming purposes are exceptionally made in sites where the forestry management plan, and/or the commercial venture and the FMP income source, considers this aspect. When these are indispensables for the site management and are made in soils with no severe restrictions for this use, with an appropriate soil and culture management to the site conditions.

FSC CH BN

6.10.1 No se aplica sustitución de BN por plantaciones de especies exóticas. 6.10.2 No existe establecimiento de plantaciones forestales en suelos habilitados con fines agrícola ganaderos con posterioridad al año 1994, sino con fines de recuperación del bosque original.

6.10.3 Habilitaciones con fines agropecuarios se realizan excepcionalmente, en

Indicator	Evidence	Outcome	Justification
	predios cuyo plan de ordenamiento, giro comercial y fuente de ingreso del PMF, contempla este rubro cuando éstas son indispensables para el manejo del predio y se efectúan en suelos que no presentan restricciones severas para este uso, con un manejo del suelo y cultivos adecuados a las condiciones de sitio.		
C.2.1	 FSC P&C v5.3 Principle 8: Monitoring and Assessment The Organization* shall demonstrate that, progress towards achieving the management objectives*, the impacts of management activities and the condition of the Management Unit*, are monitored and evaluated proportionate to the scale, intensity and risk* of management activities, in order to implement adaptive management*. 8.1. The Organization* shall monitor the implementation of its management plan*, including its policies and objectives*, its progress with the activities planned, and the achievement of its verifiable targets. 8.2. The Organization* shall monitor and evaluate the environmental and social impacts of the activities carried out in the Management Unit*, and changes in its environmental condition. 8.3. The Organization* shall analyse the results of monitoring and evaluation and feed the outcomes of this analysis back into the planning process. 8.4. The Organization* shall make publicly available* a summary of the results of monitoring free of charge, excluding confidential information. 8.5. The Organization* shall have and implement a tracking and tracing system proportionate to scale, intensity and risk* of its management activities, for demonstrating the source and volume in proportion to projected output for each year, of all products from the Management Unit* that are marketed as FSC certified. 	FC	Principle 8 of the P&C standard deals with monitoring and assessment. Organizations are required to demonstrate that progress, impact, and conditions are monitored and evaluated. The organization is also assessed against the management control required to ensure that the applicable FSC requirements are complied with. This is established in the standard for forest management evaluations, where CBs must assess the organization's management system and its capacity to implement it (e.g., technical and human resources available, documentation, procedures and records). The CoC standard presents requirements related to the implementation and maintenance of the CoC system, which includes the appointment of a representative for conformity with applicable certification standards, procedures covering certification requirements, training staff to ensure their competence etc. Therefore, this indicator was classified as FC.
	 FSC FME v4.0 10. Main evaluation 10.2. Evaluation of management system(s) 10.2.1. The certification body shall complete an explicit analysis of the critical aspects of management control required to ensure that the applicable FSC normative requirements are implemented over: a. the full geographical area in the scope of certification; and b. the full range of management activities. 		

Indicator	Evidence	Outcome	Justification
	10.2.2. The certification body shall evaluate the capacity of The		
	Organization to implement its management system consistently and		
	effectively as described. This evaluation shall		
	include explicit consideration of:		
	a. the technical resources available (e.g., the type and quantity of		
	equipment); and		
	b. the number of people		
	the evolubility of expert eduice if required)		
	10.2.3 The evaluation shall include an assessment of the documentation and		
	records applicable to each level of management sufficient to confirm that		
	management is functioning effectively and as described		
	10.2.4. The certification body shall evaluate the tracking and tracing of forest		
	products up to the forest gate or point of sale, and the procedures for the		
	identification of products coming from the MUs in the scope of certification.		
	10.2.5. At each MU selected for auditing, the certification body shall identify and		
	assess a sufficient variety and number of records including management		
	documentation as to make factual observations to verify conformity with all		
	requirements of the applicable FSS.		
	FSC CoC v3.1		
	1.1 The organization shall implement and maintain a CoC management system		
	adequate to its size and complexity to ensure its continuous conformity to all		
	applicable certification requirements, including the following:		
	a) appoint a management representative who has overall responsibility and		
	authority for the organization's conformity to all applicable certification		
	requirements;		
	b) implement and maintain up-to-date documented procedures covering the		
	certification requirements applicable to the scope of the certificate;		
	c) define the key personnel responsible for the implementation of each		
	procedure; d) train staff on the up to date version of the ergenization's precedures to		
	and their competence in implementing the CoC management system:		
	ensure their complete and up to date records of the documents that are		
	relevant to demonstrate the organization's conformity with all applicable		

Indicator	Evidence	Outcome	Justification
	 certification requirements which shall be retained for a minimum period of five (5) years. At a minimum, the organization shall keep records of the following documents as applicable to the certificate scope: procedures, product group lists; training records; purchase and sales documents; material accounting records; annual volume summaries; trademark approvals; records of suppliers, complaints, and outsourcing; control of non-conforming products; verification program records for reclaimed material, and records related to a due diligence program for controlled material and FSC Controlled Wood. 1.6 The organization shall maintain an up-to-date self-assessment in which it describes how the organization applies the FSC core labour requirements to its operations. The self-assessment shall be submitted to the organization's certification body. 		
C.2.2	 FSC CoC v3.1 1 CoC management system 1.1 The organization shall implement and maintain a CoC management system adequate to its size and complexity to ensure its continuous conformity to all applicable certification requirements, including the following: e) maintain complete and up-to-date records of the documents that are relevant to demonstrate the organization's conformity with all applicable certification requirements which shall be retained for a minimum period of five (5) years. At a minimum, the organization shall keep records of the following documents as applicable to the certificate scope: procedures, product group lists; training records; purchase and sales documents; material accounting records; annual volume summaries; trademark approvals; records of suppliers, complaints, and outsourcing; control of non-conforming products; verification program records for reclaimed material, and records related to a due diligence program for controlled material and FSC Controlled Wood. 	FC	The CoC standard requires the organization to keep records of documents that are relevant to demonstrate conformity with all applicable certification requirements for at least 5 years. No information was found related to the record keeping of evidence of compliance for organizations under the P&C standard. However, certification bodies are required to keep records of, among several other documents, certification audit reports and summaries for at least 7 years. Thus, this indicator was classified as FC.
	FSC ACB v4.0 Part 2: General management system requirements 2.4 Records 2.4.1 Accurate, complete and legible records related to implementation of FSC requirements shall be kept and be readily available for evaluation by ASI,		

Indicator	Evidence	Outcome	Justification
	including for example the following: g) certification audit reports and summaries 2.4.3 Records shall be readily accessible for a period of at least seven (7) years.		
C.3.1	 FSC ACB v4.0 Part 4: Process requirements 4.3 Audit 4.3.11 The certification body shall evaluate each non-conformity identified in the audit to determine whether it constitutes a minor or major non-conformity. 4.3.13 Non-conformities shall be graded as follows: a) a non-conformity shall be considered minor if: i. it is a temporary lapse, or ii. it is unusual/non-systematic, or iii. the impacts of the non-conformity are limited in their temporal and organizational scale, and iv. it does not result in a fundamental failure to achieve the objective of the relevant requirement. b) a non-conformity shall be considered major if, either alone or in combination with further non-conformities, it results in, or is likely to result in a fundamental failure to achieve of the relevant requirement. b) a non-conformity shall be considered major if, either alone or in combination with further non-conformities, it results in, or is likely to result in a fundamental failure to achieve the objective of the relevant requirement within the scope of the evaluation. Such fundamental failures may be indicated by non-conformities which: continue over a long period of time, or are systematic, or 	PC	According to the standard for FSC accredited CBs, NCs are classified as minor or major according to certain criteria. This classification is determined by the CB, thus it is not clear if NCs related to requirements listed in criteria A.1 and A.2 would be addressed as minor or major. In any way, minor NCs must be corrected within the maximum period of one year, while major NCs must be corrected within three months. The suspension of certification happens when corrective actions for major NCs are not appropriately implemented within the timeframe or when 5 or more major NCs are identified during a surveillance audit. Considering that even major NCs can be addressed by corrective actions, violating the rules for forest conversion and compliance with law does not automatically lead to certificate suspension or withdraw. Therefore, this indicator was classified as PC.
	 iii. affect a wide range of the production, or iv. affect the integrity of the FSC system, or v. are not corrected or adequately addressed by the client once they have been identified. 4.3.14 Non-conformities shall be transformed into corrective action requests that at minimum include a description of the non-conformity, the objective evidence on which the non-conformity is based and a timeline within which the non-conformity shall be corrected by the client. 4.3.16 The corrective action request timelines commence from the moment when they are formally presented to the client and no later than three (3) months from the audit closing date. Corrective action requests shall have the following timeframes: 		Overall, further investigation is needed to understand how NCs with requirements related to deforestation/forest degradation and compliance with law are classified in practice, as well as corrective actions proposed for these cases. This aspect should be considered by operators.

Indicator	or Evidence		Justification	
	 a) minor non-conformity shall be corrected within the maximum period of one (1) year (under exceptional and justified circumstances the timeline may be extended to two (2) years); 			
	 b) major non-conformity shall be corrected within three (3) months (under exceptional and justified circumstances within six (6) months). 			
	4.3.18 The certification body shall determine whether corrective action requests have been appropriately implemented within their timeframes. If the action taken is not considered adequate, then:			
	 a) minor non-conformity shall become major non-conformity and shall be corrected within a maximum period of three (3) months (or in exceptional and justified circumstances six (6) months); b) major non-conformity shall lead to immediate suspension of certification. 4.7 Surveillance 			
	4.7.3 The occurrence of five (5) or more major non-conformities in a surveillance audit shall be considered as a breakdown of the clients' management system and certification shall be suspended within ten (10) days of the certification decision being taken.			
C.3.2	 FSC ACB v4.0 Part 1: General requirements 1.2 Legal and contractual matters 1.2.1 The certification body shall be a legal entity, or a defined part of a legal entity, such that the legal entity can be held legally responsible for all its certification activities. 1.5 Impartiality 1.5.1 The certification body shall be responsible for ensuring that certification activities are undertaken impartially and shall not allow commercial, financial or other pressures to compromise impartiality. 1.5.2 The certification body shall have top management commitment to impartiality. 	FC	According to the standard for FSC accredited CBs, the CB must be a legal entity. The CB must act impartially, and must identify, analyse and document any risks on an ongoing basis. The CB must maintain and implement written policy and procedures for avoidance of conflicts of interest, with specific requirements laid down in the standard. The CB must also establish a committee for safeguarding impartiality, which provides inputs on the policies, procedures and matters related to impartiality.	
	 1.5.3 All certification body personnel (either internal or external) and committees involved in certification activities shall act impartially. 1.5.5 The certification body shall maintain and implement written policy and procedures for avoidance of conflicts of interest. 1.5.6 The certification body shall identify, analyse and document risks to its impartiality on an ongoing basis. This shall include those risks that arise from its 		The CB must have a procedure to determine the criteria for the competence of personnel for each function in the implementation of the FSC accredited certification program. The standard details minimum requirements for this procedure. The standard also provides minimum	

Indicator	Evidence	Outcome	Justification
	 activities, from its relationships, or from the relationships of its personnel. However, such relationships may not necessarily present a certification body with a risk to impartiality. 1.5.7 If a risk to impartiality is identified, the certification body shall be able to demonstrate how it eliminates or mitigates such risk. 1.5.8 The certification body shall ensure that activities of separate legal entities with which it has relationships, do not compromise the impartiality of its certification activities. This also applies to separate legal entities that have a relationship with the legal entity of which the certification body forms a part of. 1.5.13 The certification body shall have a committee for safeguarding its impartiality. The committee shall provide input on the following: a) the policies and procedures relating to the impartiality of its certification activities; b) any tendency on the part of a certification body to allow commercial or other considerations to prevent the consistent impartial provision of 		requirements for the qualification of auditor for different certification scopes (i.e., forest management or chain of custody). Thus, this indicator was classified as FC.
	certification activities;		
	 Part 2: General management system requirements 2.1 Organizational structure 2.1.2 The management of the certification body shall identify the board, group of persons, or person having overall authority and responsibility for each of the following: d) d) personnel competence requirements (see 3.1 and Annex 2) 		
	Part 3: Resource requirements 3.1 Certification body personnel involved in certification activities 3.1.1 The certification body shall have personnel competent for managing its work related to the implementation of the FSC accredited certification program. 3.1.3 The certification body shall have, implement and maintain a procedure for the management of competencies of personnel involved in the implementation of the FSC accredited certification program.		
	Annex 2: Qualification requirements for Forest Management and Chain of		

Indicator	Evidence	Outcome	Justification
	Custody auditor candidates and auditors Table 2: Qualification requirements for Forest Management (FM) auditor candidates and auditors (normative). Includes: Education and professional experience, Auditor and FSC training, FSC training, Continuous professional experience, Auditor performance evaluation. Qualification requirements for Chain of Custody (CoC) auditor candidates and auditors (normative). Includes: same topics as Table 2.		
C.3.3	 auditors (normative). Includes: same topics as Table 2. FSC ACB v4.0 Part 4: Process requirements 4.7 Surveillance 4.7.1 Surveillance evaluations of FSC clients shall take place at least once per calendar year and additionally for chain of custody audits not later than fifteen (15) months after the last audit and may be more frequent depending on factors such as: a) the scale of the operation (e.g. the area of an management unit, the quantity of production in the case of a manufacturer, or the value and/or volume turnover in the case of a trader); b) the intensity of resource management in the case of a management unit (e.g. the frequency and level of timber harvest); c) the complexity of the management system (e.g. the chain of custody system); d) results of risk assessment in the case of group certification; d) the ecological or social sensitivity of the resource base to management intervention; f) the experience and track record of the operators involved (managers and personnel, contractors); e) g) the number and nature of any non-conformities identified by the certification 		The standard for FSC accredited CBs requires that surveillance evaluations are conducted at least once per calendar year. The frequency can be higher depending on some factors. However, given the approach based on the calendar year, the interval between audits can be longer than 12 months (e.g., one surveillance in the beginning of one year, followed by one surveillance in the end of the next year). It is specified, that for CoC certification, the interval cannot be longer than 15 months. Therefore, this indicator was classified as PC.
C.3.4	 <u>FSC_FME_v4.0</u> 1. Basic Principles 1.1. To provide an assurance that there is no major failure in the conformity with the applicable FSC normative requirements in any management unit (MU) within the scope of certification, the certification body shall: c. carry out sampling of sites, assess documents and records, conduct 	FC	FSC presents standards specifying how to conduct FM and CoC evaluations. The standard for FM evaluation specifies the use of several sources of information during the audits, including assessment of documents and records, interview with workers, consultation with

Indicator	Evidence	Outcome	Justification
	 interviews with workers, consult stakeholders and make direct factual observations sufficient to verify that there are no major non-conformities with the performance thresholds and indicators specified in the applicable FSC normative requirements within any MU in the scope of certification. 1.6. The certification body shall conduct stakeholder consultations in accordance with FSCSTD-20-006 Stakeholder Consultation for Forest Evaluations Standard. 8.1. General requirements 8.1.1. For each evaluation, the certification body shall classify the MUs included in the scope of certification as sets of 'like' MUs for the purpose of sampling. The sets shall be selected to minimize variability within each set in terms of: a. forest types (e.g., natural forest vs. plantation); b. size of the MUL (see sub-section 8.4.); 		stakeholders and field observation. A specific standard provides details on how stakeholder consultation must be conducted. Moreover, there are guidelines on how to define the sample of MUs to be evaluated, which depends on the certification scope (multiple MUs, group certification, group certification with more than 5,000 SLIMF, contractors in group certification). Each scope has specific formulas to calculate the sample intensity within homogenous groups of MUs (sets of "like" MUs).
	 b. size of the MU (see sub-section 8.4.); c. whether the MU has been classified as active or inactive (applicable to FM group certification); d. MUs added since the last evaluation; and e. other factors as may be defined in the applicable FSS. 8.1.2. The certification body shall select specific MUs for evaluation within each set of 'like' MUs to reach the required sample size. The certification body should include a random element in the selection process. 8.1.4. The certification body shall implement the requirements in the following sub-sections as applicable to determine the minimum number of MUs to be audited at each evaluation: a. multiple MU certification: sub-section 8.2.; b. group certification with more than 5,000 SLIMF MUs: sub-section 8.4.; and d. sampling for contractors included in the scope of group certification: sub-section 8.5. 8.2. Sampling for multiple MU certification 8.2.1. During main and re-evaluation, for each set of 'like' MUs identified, the certification body shall select a minimum number of MUs for evaluation (x) by applying the formula x= 0.8 * √y for each set of 'like' MUs (y= number of all MUs within the set of 'like' MUs). The number of MUs calculated (x) shall be rounded to the upper whole number to determine the number of MUs to be audited. 		The standard for CoC evaluation specifies how to conduct the evaluation of management systems and the evaluation at the level of the operational site. The latter includes assessment of documentation and records, interviews with workers and representatives, and physical inspection of all sites. This indicator was classified as FC.

least half the number of MUs audited during the main evaluation.

FSC CoCE v2.4

1 General principles

1.1 A chain of custody certificate issued by an FSC-accredited certification body provides a credible guarantee that all chain of custody operations within the scope of a certificate conform to all applicable requirements of the relevant FSC normative documents. In order to provide such a guarantee, the certification body shall:

c) where applicable, carry out sampling of operational sites, non-certified suppliers, contractors, project sites, non-FSC-certified project members, documents, management records, and interviews with personnel sufficient to verify that the control system is being implemented effectively and consistently across the whole scope of the certificate.

2 Evaluation requirements

2.6 The certification body shall evaluate each operational site within the scope of the evaluation in order to make direct, factual observations to verify the organization's conformance to all applicable certification requirements. The evaluation shall include:

- a) identification and assessment of management documentation and a sufficient variety and number of records at each operational site selected for evaluation in order to confirm that management is functioning effectively and as described, particularly with respect to the identified critical control points;
- b) interviews with a sufficient variety and number of employees, their representatives, including worker's organizations, employer's representatives, and contractors, at each operational site selected for evaluation in order to verify the organization's conformance to all applicable certification requirements. The interviewer shall ensure that comments can be provided in confidence;
- c) as a minimum, interviews shall be conducted to verify training measures and understanding of individual responsibilities at different locations across the operation under evaluation;
- d) review of the organization's implementation of all applicable corrective action requests;

Indicator	Evider	ce	Outcome	Justification
	e) f)	review of all complaints, disputes, or allegations of non-conformities received by the organization and/or the certification body; physical inspection of all sites selected for evaluation, including inspection of all locations where operational activities under the scope of the certificate are carried out		
	g)	purchasing and sales documentation of any materials or products related to FSC certification (e.g. invoices, bills, transport documents, sales contracts);		
	h) i) j)	confirmation that inputs described as FSC-certified or FSC Controlled Wood were covered by a valid FSC chain of custody certificate and supplied with the applicable FSC claims and certificate codes; review of systems for controlling FSC claims; confirmation of the correct use of FSC trademarks (on-product and promotional) and the 'FSC Controlled Wood' claim in segregation marks, sales, and transport documentation; review of training records (e.g. training materials and list of participants)		
C.3.5	K) FSC G 1 Requ 1.1. Th indepe 1.4. Th 3 Divis 3.1. Th the gro 3.2. T respon 4 Confe 4.1. Co Standa the FSe 7 Addir 7.1. Th and en Stewar new mo	interview of training records (e.g. training materials and list of participants). interview of training records (e.g. training materials and list of participants). interview of training records (e.g. training materials and list of participants). interview of training records (e.g. training materials and list of participants). interview of training records (e.g. training materials and list of participants). interview of training records (e.g. training materials and list of participants). interview of training records (e.g. training materials and list of participants). interview of training records (e.g. training materials and list of participants). interview of training records (e.g. training materials and list of participants). interview of group Entity shall be a person or group of persons registered as one and on the responsibilities and and the standard. ion of responsibilities e Group Entity shall define and document the division of key sibilities within the group, as described in Clause 3.1. by the group Entity shall equirements of the applicable Forest Stewardship rd shall be demonstrated for each management unit within the scope of C FM/CoC or CW/FM group certificate. ing new members to the group e Group Entity shall evaluate every applicant who wishes to join the group sure that there are no major non-conformities with the applicable Forest dship Standard, nor with membership requirements, before adding the ember to the group.	FC	The standard for group certification establishes minimum requirements for group management. Includes requirements for group entities (e.g., registration as a legal entity), division of responsibilities (e.g., define and document responsibilities within the group), conformance across MUs (e.g., all MUs must comply with all applicable requirements), internal monitoring (e.g., description, monitoring and analysis of an internal system to assure continued conformance with applicable requirements, as well as guidelines for sampling MUs for internal monitoring), among others. The standards for FM and CoC evaluation also provide guidelines to determine the sample for conformity assessment for organizations under group certification. Thus, this indicator was

Indicator	Evidence	Outcome	Justification
Indicator	 Evidence 8 Provision of information to members 8.1. The Group Entity shall provide each member with information, or access to information. 9 Group Rules 9.1. The Group shall develop, implement and keep updated written rules to manage the group covering all applicable requirements of this standard, according to the scale and complexity of the group about how the group works. 10 Group records 10.1. The Group Entity shall maintain up-to-date records covering all applicable requirements of this standard. 11 Internal monitoring 11.1. The Group Entity shall implement a documented internal monitoring system that includes at least the following: a) A description of the internal monitoring system sufficient to: 	Outcome	Justification classified as FC.
	 a) A description of the internal monitoring system, sufficient to: i. make sure there is continued conformance with the applicable Forest Stewardship Standard in the management units in the group; ii. check the adequacy of the group management system and the Group Entity's overall performance. b) Regular (at least annual) monitoring visits to a sample of management units within the group; c) Regular (at least annual) analysis of the results of the internal monitoring to improve the group. 		
	11.4 The minimum sample of management units to be visited annually for internal monitoring shall be calculated according to Table 1. Table details the monitoring sampling calculation.		
	 FSC FME v4.0 8. Selecting MUs and sites for evaluation 8.1. General requirements 8.3. Sampling for group certification 8.4. Group certification with more than 5,000 MUs qualifying as SLIMF 8.5. Sampling process for forestry contractors included in the scope of group certification 		

FSC CoCE v2.4

Indicator	Evidence	Outcome	Justification
	 7 Evaluation of group and multisite chain of custody certificates 7.5 The certification body shall select a sample of the participating sites for evaluation of conformance to the applicable FSC normative documents. The certification body shall divide the participating sites into two sets of sites: normal-risk participating sites and high-risk participating sites (see Terms and definitions), which shall be sampled separately by using the following formulas: a) for main evaluations, surveillance evaluations, and re-evaluations. b) for the inclusion of new participating sites (beyond the approved annual growth rate). 		
C.4.1	All standards and supporting documents are publicly available at the FSC Document Centre: https://connect.fsc.org/document-centre In this page, users can use a search bar to find a document and apply a filter by document type (Standard, Policy, Procedure, Forest Stewardships Standards, Interpretation, Directive, Advice Note, Controlled Wood Risk Assessment, and Guidance document). When selecting a document, a new page is loaded,	FC	A complete directory with relevant documents for the FSC system is publicly available online. Therefore, this indicator was classified as FC.
C.4.2	 Containing the link for download and document description. FSC Public Search – Certificate Data: https://connect.fsc.org/fsc-public-certificate-search FSC Certificates Public Dashboard: Microsoft Power BI Certificate information is updated and available on our FSC Certificate Public Dashboard. The dashboard is provided via Microsoft's Power BI Platform (see Microsoft's Privacy statement) via the following link: FSC Certificate Public Dashboard. There is information on the last update. The platform was accessed on several days during the assessment, and the updates occur continuously. 	FC	FSC provides a dashboard with information on certificates. Users can use a search bar to search by license code, certificate code, organization name, local name, and state/province. Moreover, several filters are available, such as certificate status (suspended, terminated, valid), CB, certificate type (FM, CW, CoC), Country/Area, Output Category (e.g., FSC 100%), tree species, role (CH or site) and product. The results also display the range of validity of the certificate (start and end dates), and the inclusion or not of a DDS for CW. Therefore, this indicator was classified as FC.
C.4.3	FSC Public Search – Certificate Data: <u>https://connect.fsc.org/fsc-public-certificate-search</u>	PC	CBs are required to publish public summaries of audit reports. The minimum requirements for such reports are established in the standard for
	Visit the new FSC Search (https://search.fsc.org/), currently in a public Beta version. The public Beta of the FSC Search is a pre-release version made		FM and CoC evaluations. They include audit findings and NCs. However, reports for CoC only

Indicator	Evidence	Outcome	Justification
	available to the public for testing and feedback. Visit FSC Search BETA for information about the FSC Search current and future features, known issues, and how to share feedback about the FSC Search with FSC. The official launch of the ESC Search is planned to take place later in 2023 and		covered the evaluation of CW, rather than findings for all requirements for the CoC system. Therefore, this indicator was classified as PC.
	the FSC Certificate Public Dashboard will continue to be available until this time.		Beyond the dashboard of certificates, FSC is also implementing a public search to provide up-
	FSC Search BETA: https://connect.fsc.org/fsc-tools/fsc-search-beta		to-date certification and licensing information. In this platform, not only the previous information or
	The FSC Search BETA is a preview of FSC's new online search facility, where stakeholders can access a range of important information and data about FSC certificates and other information resources.		the certificate will be available, but also further information such as address and data on the organization, a list of group members and sites, a
	rSC stakeholders are invited to try out the FSC Search BETA, and we invite stakeholders to provide feedback to support improving the usability and quality of information in the new search facility.		This tool is currently being tested and is expected to be launched later in 2023. Among the documents made publicly available in this
	<u>FSC_FME_v4.0</u>		platform, there are public summary of audit
	18. Public summary		reports, displayed as the document type "Public
	18.1. The certification body shall complete the public summary in one of the official languages of FSC for each evaluation, using the applicable template(s) provided by FSC. The mandatory content of the public summary is provided in Annex 4 (Content of the evaluation report and public summary). ANNEX 4 CONTENT OF THE EVALUATION REPORT AND PUBLIC SUMMARY Table 8. Minimum mandatory content of the evaluation report and public		Summary Report (available on website)".
	Summary. AUDIT FINDINGS AND NON-CONFORMITIES		
	FSC CoCE v2.4 PART III: Chain of Custody Evaluation Reports		
	13 Public certification summaries for evaluations of controlled wood according to FSC-STD-40-005		
	13.1 The certification body shall publish a certification summary for the controlled wood evaluation on the FSC database upon registration of the certification status.		
	13.2 The certification summary shall include at minimum:a) the contents of the evaluation report relevant to the evaluation of controlled wood (see Table B. Item 7);		

Indicator	Evidence	Outcome	Justification
	b) a list of all non-conformities that the organization is required to correct in order to maintain its certification, including the time period within which corrective actions shall be made.		
C.4.4	 FSC P&C v5.3 1.7 The Organization shall publicize a commitment not to offer or receive bribes in money or any other form of corruption, and shall comply with anti-corruption legislation where this exists. In the absence of anti-corruption legislation, The Organization shall implement other anti-corruption measures proportionate to the scale and intensity of management activities and the risk of corruption. FSC GI v2.0 1.7.1 A policy is implemented that includes a commitment not to offer or receive bribes of any description. 1.7.2 The policy meets or exceeds related legislation. 1.7.3 The policy is publicly available* at no cost. 1.7.4 Bribery, coercion and other acts of corruption do not occur. 1.7.5 Corrective measures are implemented if corruption does occur. 	FC	One of the FSC criteria is related to corruption, where organizations must make a public commitment, comply with anti-corruption legislation, and implement other anti-corruption measures in the absence of legislation. This can be translated into several indicators as shown in the standard for generic indicator. Moreover, there is a paper published by FSC listing all the actions that have been taken to address corruption in the scheme, highlighting changes in the standards to incorporate anti-corruption measures. The national risk assessments also account for the risk of corruption.
	FSC and Corruption v1.1 First, FSC expects managers of certified forests not to be corrupt, and second, it expects certification bodies to verify whether corruption is in fact being combatted and/or avoided. FSC complaints procedures can be used by outsiders to raise concerns about corruption. This paper gives an overview of how corruption is dealt with in the rules and procedures that were operational from 2013 (start of the European Union Timber Regulation [EUTR]), and on how corruption is receiving additional attention from 2017.		Furthermore, the CBs are required to maintain a procedure to receive and handle complaints and appeals. Therefore, this indicator as classified as FC.
	FSC NRAF v1.0 f) Assessment of corruption: consultation with experts (see Annex A) shall take place to evaluate the extent of corruption in the forestry sector in countries where the corruption perceptions index of Transparency International (http://www.transparency.org/research/cpi/overview) is less than 50, taking into account corruption related to forestry operations. Special attention shall be given to the enforcement of laws requiring approval from public bodies, such as		
Indicator	Evidence	Outcome	Justification
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	harvesting permits, concession licenses, custom declarations, etc., as well as		
	laws relevant to the purchase of forest products or harvesting rights from publicly		
	owned land.		

FSC ACB v4.0

1.9 Complaints and appeals

1.9.1 The certification body shall have a documented procedure to receive, evaluate and make decisions on complaints and appeals, which shall at least include the following elements:

- a) to allow the aggrieved party the opportunity to present the complaint or appeal to an entity (person(s), group or committee) which must be within the certification body's contractual (e.g. employee) or organizational control (e.g. committee);
- b) to require the complainant or appellant to include a clear description of the complaint or appeal, objective evidence to support each element or aspect of the complaint or appeal, and the name and contact information of the submitter.

1.9.2 Summary information about the procedures for submitting and handling complaints and appeals shall be easily accessible on the websites of both the certification body and any bodies providing outsourced services in the local language of the country of operation. For forest management this information shall be publicly available in the same language as the public summary certification report published by the certification body.

Annex 6 – Full application of the assessment framework to Rainforest Alliance

Indicator	Evidence	Outcome	Justification
A.1.1	RA FR v1.2 6.1.1 From January 1 st , 2014, onward, natural forests and other natural ecosystems have not been converted into agricultural production or other land uses. (Core requirement for small and large farms under group certification, and for individual certification) Please see SA-S-SD-24 Annex Chapter 6: Environment Annex Chapter 6: Environment Requirement 6.1.1 sets January 1. 2014, as the cut-off date beyond which no-	PC	The core requirement 6.1.1 forbids conversion of natural forests and other natural ecosystems into agricultural production or other land uses. Annex Chapter 6 complements this requirement, by addressing the identification of the conversion area, rules for areas where minor conversion has already occurred, and rules for minor conversion for infrastructure management.
	deforestation and no-conversion occurs. Any deforestation or conversion occurring beyond this date may render a given area or production unit as non- compliant with the Rainforest Alliance Sustainable Agriculture Standard and may be cause for decertification or non-certification. However, for the management of infrastructure and for minor cases of deforestation that can be remediated, some flexibility is provided as detailed below.		For large farms and individual farms, conversion of forests or other natural ecosystems to agricultural production or other land uses that occurred after January 1 st , 2014, must not comprise more than 1% of the land of the farm or more than 10 ha (whichever is smaller). In these cases, farmers are required to develop a
	The Rainforest Alliance's geodata risk maps give an overview of whether there is evidence of conversion or encroachment on a farm for which geodata has been provided. Rainforest Alliance risk maps are updated each time the geolocation data is updated.		conversion. Conversion is also allowed in certain circumstances to maintain or expand infrastructure essential for farm or processing operations, not surpassing 1% of the total certified land area.
	Large Farms and individual farms For large farms (including those certified as part of a group) and individual farms, conversion of forests or other natural ecosystems to agricultural production or other land uses that occurred after January 1st, 2014, must not comprise more than 1% of the land of the farm or more than 10 hectares (whichever is smaller). For conversion that has occurred below this threshold, farm management must develop a restoration/compensation plan showing how the conversion of forest or		Furthermore, this requirement comprises only natural forests. Based on the EUDR, deforestation-free comprises all types of forests. Because of these gaps, and the possibilities allowing for minor conversion, this indicator was classified as PC.

Indicator	Evider	nce	Outcome	Justification
	Group	ecosystem will be remediated in collaboration with an ecologist. certification For group certification, conversion of forests or other natural ecosystems to agricultural production or other land uses that occurred after January		
		1 st , 2014 must not comprise more than 1% of the total land of the group or more than 10 hectares (whichever is smaller). For conversion that has occurred below this threshold the group must implement measures to remediate and avoid further conversion.		
	3. MIN	OR CONVERSION FOR INFRASTRUCTURE MANAGEMENT		
	mainta	in or expand infrastructure essential for farm or processing operations may		
	be per	mitted under the following conditions:		
	i.	Conversion may take place only for the reason of installing new farm infrastructure or repairing or modernizing existing farm infrastructure (e.g., roads or irrigation infrastructure, including pumping facilities, channels, ponds, reservoirs, dams, and impoundments), permanently installed machinery, or facilities for washing, processing, or packing.		
	ii.	Farm or group management documents the plan for the installation in advance, including the reason why the proposed infrastructure installation or repair cannot be carried out without converting the relevant area.		
	iii.	Polygons of the overall certified land as well as the converted area are collected to demonstrate that the land area to be converted is below the allowed threshold of 1% of total certified land. NB The 1% threshold is the cumulative total allowable area from the first date of application for certification		
	iv.	The conversion fully complies with Requirement 6.1.2 so production or processing does not occur in protected areas or their officially designated buffer zones, except where it complies with applicable law.		
	۷.	The conversion fully complies with applicable law.		
	vi.	The conversion is consistent with any designations or recommendations regarding High Conservation Values contained in any HCV assessment(s) of the site or area.		

Indicator	Evidence	Outcome	Justification
A.1.2	 ANNEX S01: Glossary Natural forests: Forests are land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or other land use. Where quantitative thresholds (e.g., for tree height or canopy cover) are established in sector-wide commitments or national or subnational forest definitions, they may take precedence over the generic thresholds in this definition. Natural forests possess many or most of the characteristics of a forest native to the given site, including species composition, structure, and ecological function. Natural forests include: Primary forests that have not been subject to major human impacts in recent history Regenerated (second-growth) forests that were subject to major impacts in the past (for instance by agriculture, livestock raising, tree plantations, or intensive logging) but where the main causes of impact have ceased or greatly diminished and the ecosystem has attained much of the species composition, structure, and ecological function of prior or other contemporary natural forests where much of the ecosystem's composition, structure, and ecological function exist in the presence of activities such as: Harvesting of timber or other forest products, including management to promote high-value species Low intensity, small-scale cultivation within the forest, such as less- intensive forms of swidden agriculture in a forest mosaic Forests that have been partially degraded by anthropogenic or natural causes (e.g., harvesting, fire, climate change, invasive species, or others) but where the land has not been converted to another use and where degradation does not result in the sustained reduction of tree cover below the thresholds that define a forest or sustained loss of other main elements of ecosystem composition, structure, and ecological function. 	PC	The definition of forest is the same as the one in the EUDR. Deforestation is defined as one form of conversion (conversion of natural forests) However, the EUDR considers deforestation as the conversion of forest into agricultural use, no restricted only to natural forests. Even though forest degradation is not formally defined, it is encompassed in the definition of conversion, which includes the conversion of a natural ecosystem to a plantation. In turn, natura forests include primary and regenerated forests Thus, the conversion of primary and regenerated forests into plantations would fit the EUDR definition of forest degradation. Because only natural forests are considered for defining deforestation, this indicator was classified as PC.

Indicator	Evidence	Outcome	Justification
	(HCSA) methodology; generally, HCSA land-cover categories high-density forest (HDF), medium-density forest (MDF), low-density forest (LDF), and young regeneration (YR) are all considered types of natural forest.		
	Conversion (of land use): Change of a natural ecosystem to another land use, or profound change in the natural ecosystem's species composition, structure, or function. This includes the conversion of a natural ecosystem to a plantation, cropland, pasture, water reservoirs, infrastructure, mining, and urban areas. Deforestation is one form of conversion (conversion of natural forests). Conversion includes severe degradation, or the introduction of management practices that result in a substantial and sustained change in the ecosystem's former species composition, structure, or function Change to natural ecosystems that meets this definition is considered to be conversion regardless of whether or not it is legal		
A.1.3	RA FR v1.2 Same as A.1.1.	FC	The conversion of natural forests must not occur after January 1 st , 2014. Thus, this indicator was classified as FC.
A.2.1	<u>RA FR v1.2</u> 1.2.1 Management complies with applicable laws and collective bargaining agreements (CBA) within the scope of the Rainforest Alliance Sustainable Agriculture Standard. (<i>Core requirement for small and large farms under group certification, group management, and for individual certification</i>) In the case that an applicable law or CBA is stricter than a requirement in the standard, such law or CBA will prevail unless such law has become obsolete. In the case that an applicable law or CBA is less strict than a requirement in the standard, the requirement in the standard will prevail, unless the requirement explicitly allows for such law or CBA to apply.	PC	At the farm level, the scheme requires that management complies with applicable laws withing the scope of the standard, which is broad. At the supply chain level, the scheme requires that supply chain CHs have a policy that encompasses responsible business conduct. This policy should include compliance with applicable laws and standards related to a few topics. Since this requirement is not comprehensive, this indicator was classified as PC.
	 <u>RA_SCR_v1.3</u> 1.1.4 The supply chain certificate holder has devised, adopted, and disseminated one or more policies for ensuring responsible business conduct in its own operations, supply chain, and other business relationships. The policies cover direct and indirect adverse impacts on human rights and the environment. At a minimum, this policy requires from the supply chain certificate 		-

Indicator	Evidence	Outcome	Justification
	 holder, its suppliers, and other business relationships: Compliance with applicable laws and relevant standards in relation to human rights, worker rights and conditions, health and safety Compliance with applicable laws and relevant standards in relation to environmental protection, deforestation, biodiversity, waste, and wastewater management. 		
	ANNEX S01: Glossary Applicable law National and ratified international laws that apply in a specific context or situation. National laws include the laws and regulations of all jurisdictions within a nation (local, regional, and national). International laws to which nations have acceded are also considered as applicable law.		
A.2.2	RA FR v1.2 Same as above, plus: 5.1 Assess-and-Address Child Labor, Forced Labor, Discrimination, Workplace Violence and Harassment 5.2 Freedom of Association and Collective Bargaining 5.3 Wages and Contracts 5.4 Living Wage 5.5 Working Conditions 5.6 Health and Safety 5.7 Housing and Living Conditions 5.8 Communities	PC	At the farm level, there is a requirement that certificate holders comply with applicable laws within the scope of the Rainforest Alliance Sustainable Agriculture Standard (the stricter rule prevails). In the scope of the standard, several aspects are addressed related to land use rights (5.8.2), environmental protection (from 6.1 to 6.8, with several core requirements), third parties' rights (5.8, with several core requirements), labour rights (from 5.1 to 5.7, with several core requirements), and the principle of FPIC (5.8.1). Items (f) and (h) are not directly addressed.
	 5.8.1 Management respects legal and customary rights of indigenous peoples and local communities. Activities diminishing the land or resource use rights or collective interests of indigenous peoples and local communities, including High Conservation Values (HCVs) 5 or 6, are conducted only after having received free, prior and informed consent (FPIC) following the Rainforest Alliance FPIC annex. 5.8.2 The producer has legal or legitimate right to use the land, substantiated by ownership, leasehold, or other legal documents or by documentation of traditional or customary use rights. 		At the supply chain level, certificate holders must comply with applicable laws in relation to a) human rights, worker rights and conditions, health and safety, and b) environmental protection, deforestation, biodiversity, waste, and wastewater management. Items (a), (d), (g) and (h) are not directly addressed, although some may not apply for this standard (e.g., principle of FPIC), while others clearly apply (e.g., tax

Indicator	Evidence	Outcome	Justification
			regulations).
	 6.1 Forests, and other Natural Ecosystems and Protected Areas 6.2 Conservation and Enhancement of Natural Ecosystems and Vegetation 6.3 Riparian Buffers 6.4 Protection of Wildlife and Biodiversity 6.5 Water Management and Conservation 6.6 Wastewater Management 6.7 Waste Management 6.8 Energy Efficiency 		This indicator was classified as PC, with main gaps related to tax, anti-corruption, trade and customs regulations, not covered by either of the standards.
	RA SCR v13		
	Same as above.		
	<u>ANNEX S01: Glossary</u> Same as above.		
A.2.3	RA FR v1.2 1.2.2 There is a list of current service providers, suppliers, intermediaries, and subcontractors. (Core requirement for large farms under group certification, group management, and for individual certification) Mechanisms are in place to ensure that they comply with applicable requirements of the Standard for work within the scope of certification. For Farms - This is valid for work in the field, work in processing, and labor provision. - "Suppliers" refers only to other farms they buy certified product from.	FC	Both farm and supply chain standards require that subcontractors comply with the applicable requirements. The standard for certification and auditing rules reinforces that the applicable standard requirements from chapters 1, 4.5, 4.6, 5 and 6 shall cover all operations and areas of all entities, which includes subcontractors. This means management, social and environmental requirements. Therefore, this indicator was classified as FC.
	 1.4.1 Management has an internal inspection system in place to annually assess compliance of all actors within the scope of certification. (Core requirement for group management) The system includes: For Farms: group members' farms, processing and/or storage sites and any other actors (including subcontractors, intermediaries, service providers). For Supply Chain: sites and subcontractors. 		

Indicator Evidence

RA SCR v1.3

Same as A.2.1, plus:

1.2.3 There is a list of current subcontractors, suppliers, and intermediaries of certified product that confirms their compliance to certification rules prior to or at the moment of an activity.

For farms, this list of suppliers refers only to other farms they buy from.

1.4.1 An internal inspection system is in place to assess compliance of group members (for farms), sites, and/or other actors in scope with the Rainforest Alliance Sustainable Agriculture Standard. The system includes:

- Yearly inspection of each group member (for farms), (processing) site and any other actor (including subcontractors, intermediaries, service providers) in the certification scope. Before the first certification audit, all these actors need to be internally inspected.
- The scope in the first year of certification is: all applicable requirements of the Rainforest Alliance Sustainable Agriculture Standard.
- The scope during consecutive years is based on the Risk Assessment (for farms, see 1.3.1), on the previous year's internal inspection and on audit results.

For farm scope only: a rotation system is in place so that each farm unit is inspected at least every 3 years. In case of remote farm units, this is done at least every 6 years.

1.4.2 Management carries out a yearly self-assessment to evaluate its own compliance and that of all actors in its certification scope with the Rainforest Alliance Sustainable Agriculture Standard.

For farm certificate holders, the self-assessment includes the results of the internal inspections of the group members and other entities covered in the certificate (including subcontractors, intermediaries, service providers, and processing sites).

RA CAR v1.2

1.1.9 The scope of the applicable standard requirements from chapters 1, 4.5, 4.6, 5 and 6 shall cover all operations and areas of all entities (farms, sites, subcontractors, etc.) included in the certification scope of the CH.

2.4.9 For intermediaries and subcontractors and service providers who do not

Indicator	Evidence	Outcome	Justification
	 have their own Rainforest Alliance certificate/endorsement, the following additional sampling requirements apply: a. The CB shall analyze the risks associated with the scope of each intermediary, subcontractor, servicer provider and include them into the audit sample in accordance with the associated risk. b. The CB shall ensure that each intermediary, each subcontractor and each service provider is audited at least once in a 3-year certification cycle. When a service provider is a labor provider, the CB shall follow requirements in AR4.8 Auditing labor providers of this document. 		
	Annex S01: Glossarv		
	Subcontractor: An organization or individual contracted to carry out one or more specific operations on the certified products, for example, processing, storing, packaging, and/or labelling products.		
B.1.1	 <u>RA FR v1.2</u> 2.1 Traceability 2.1.3 Certified products are visually separated from non-certified products at all stages, including transport, storage, and processing. This is not applicable for mass balance products. (<i>Core requirement for group management, and for individual certification</i>) 2.1.4 Management has mapped the product flow up to the final location of the certificate scope, including all intermediaries (collection points, transport, processing units, warehouses, etc.) and activities carried out on the product. (<i>Core requirement for group management, and for individual certification</i>) 2.1.5 Products that are sold as certified can be traced back to the certified farm(s) where these were produced. (<i>Core requirement for group management, and for individual certification</i>) 2.2 Traceability in the Online Platform 	FC	The scheme requires that products sold as certified can be traced back to the certified farm were these were produced. Three types of traceability systems are available: a) IP, where there is no mixing of certified product with non-certified product, or with certified product from different sources, and the products can be traced back to the farm certificate holder, b) SG, where the certified product is kept separate from and never mixed with the non-certified product, and c) MB, where the certified and non-certified product can be mixed, but where no more volume of product is sold as certified than what was initially purchased
	2.2.1 Volumes sold as certified are recorded in the Rainforest Alliance traceability platform at the latest two weeks after the end of the quarter within which the		as certified.
	shipment took place. (Core requirement for group management, and for individual certification)		MB can be applied to cocoa and derivates, and therefore is relevant for this assessment. Overall, there are clear requirements on how to
	2.3 Mass Balance		implement the traceability system, both the farm

Indicator	Evidence	Outcome	Justification
	2.3.2 The volume of product sold as mass balance is 100% covered by volumes purchased as certified. A negative volume balance is not permitted at any time. (<i>Core requirement for group management, and for individual certification</i>) 2.3.4 Purchase and sales documentation for volumes sold as certified include origin information to country level for incoming certified and non-certified volumes. This is only applicable for cocoa mass balance products for which origin matching rules are required. (<i>Core requirement for group management, and for individual certification</i>)		and the supply chain levels. Thus, this indicator was classified as FC.
	2.3.5 Movement of mass balance volumes from one certificate holder to another shall always be accompanied by a physical shipment of relevant product. Volume trading without a physical shipment can only take place between sites covered under the same certification scope. (Core requirement for group management, and for individual certification)		
	 <u>RA SCR v1.3</u> 2.1 TRACEABILITY 2.1.3 Certified products are visually segregated from non-certified products at all stages, including transport, storage, and processing. 2.1.4 Management has mapped the product flow up to the final location of the certificate scope, including all intermediaries (collection points, transport, processing units, warehouses, etc.) and activities carried out on the product. 2.1.6 Shipments of certified products do not exceed the total production (for farms), purchase of certified products plus remaining stock balance from the previous year. 2.1.7 There is no double selling of volumes: products sold as conventional product or sold under another scheme or sustainability initiative are not also sold as Rainforest Alliance Certified. 2.1.12 Documentation includes traceability type and percentage (when applicable) when there is a change in legal ownership and/or physical possession of the certified product. 2.2 TRACEABILITY IN THE ONLINE PLATFORM 2.2.1 Volumes sold as certified are recorded in the Rainforest Alliance traceability platform at the latest two weeks after the end of the quarter within which the objective tables. 		

Indicator Evidence

2.3 MASS BALANCE

2.3.2 The volume of product sold as mass balance is 100% covered by volumes purchased as certified.

Annex Chapter 2: Traceability v1.1

Traceability types

The following traceability types are available in certified supply chains, listed from "highest" to "lowest": identity preserved (IP), segregated (SG), and mass balance (MB).

- Identity preserved (IP): A traceability type where the Rainforest Alliance Certified product can be traced back to the farm certificate holder. This is the most stringent traceability type. There is no mixing of certified product with non-certified product, or with certified product from different sources. If a certified product is from different certified sources/farms, but their identity is preserved, the subtype Mixed Identity Preserved (Mixed IP) can be applied.
- Segregation (SG): A traceability type where the certified product is kept separate from and never mixed with the non-certified product, both physically and in documentation. This segregation occurs during all receiving, processing, packaging, storage, and transportation stages of the supply chain. This means that the product is fully certified, although the identity of its source(s) is not known.
- Mass balance (MB): Mass balance is an administrative type of traceability, where the certified and noncertified product can be mixed, but where no more volume of product is sold as certified than what was initially purchased as certified. The supply chain certificate holder (CH) needs to administer all their certified and non-certified inputs and outputs in their internal documentation, and sales of certified volume need to be accurately registered in the traceability platform.

Mass balance may be applied to the following crops: cocoa, processed fruits

Indicator	Evidence	Outcome	Justification
	(including orange juice), hazelnut, coconut oil, flowers, as well as herbs, spices and other herbal tea ingredients1. All supply chain certificate holders (first buyer and beyond) may select mass balance as traceability type for these crops. Farm CHs may apply the mass balance traceability type for hazelnut, coconut oil and flowers.		
B.1.2	RA FR v1.2 1.2.12 For 100% of the farms, geolocation data of the largest farm unit with the certified crop is available. For at least 10% of the farms, this is in the form of a GPS polygon. For all other farms, this can be in the form of a location point. (<i>Core requirement for group management</i>) 1.2.13 A polygon is available of the farm. If the farm has multiple farm units, a polygon is provided for each farm unit. (<i>Core requirement for large farms under group certification, and for individual certification</i>) 1.2.14 L1 Geolocation data is available for 100% of all farm units. At least 30% is in the form of polygons. (<i>Mandatory Improvement for group management</i>)	PC	The management of group or individual certification must keep purchase and sales documents linked to physical deliveries from the certified, multi-certified and non-certified products. The purchase and sales documents must include data, product type, (percentage of) certified volume, group member and, if relevant, traceability type.
	Yearly progress on the indicators needs to be shown, corresponding to the target to reach at the end of year three. 1.2.15 L2 Polygons are available for 100% of the farm units. <i>(Mandatory</i> <i>Improvement for group management)</i> Yearly progress on the indicators needs to be shown, corresponding to the target to reach at the end of year six.		The registration of the country of production is mentioned by the MB system for products with requirements for origin matching (e.g., cocoa and derivates). In this case, the conventional products mixed with the certified products must come from the same origin. A regional approach is used (e.g., West Africa, South America).
	 2.1.5 Products that are sold as certified can be traced back to the certified farm(s) where these were produced. (<i>Core requirement for group management, and for individual certification</i>) Management keeps purchase and sales documents linked to physical deliveries from the certified, multi-certified and non-certified products, and management ensures that all intermediaries do the same. The purchase and sales documents include data, product type, (percentage of) certified volume, group member and, if relevant, traceability type. In case of group certification, group management ensures that group members receive a receipt for each delivery from the group member, group member to the group or an intermediary, specifying name of group member, group member ID, date, product type and volume. 2.1.8 Group members keep sales receipts (electronic or physical), including name 		The scheme requires the registration of the geolocation data of the farms. For large farms under group certification, and for individual certification, this information needs to be in the form of a polygon. For small farms under group certification, there is an improvement approach. At least 10% of the farms must be represented as polygons, while the others can be represented as a location point. In the next certification cycle (3 years), at least 30% of the farms must be represented by polygons, increasing to 100% in the second certification cycle (6 years).

Indicator	Evidence	Outcome	Justification
	of group member, group member ID, date, product type, and volume. (Core requirement for small and large farms under group certification) 2.2.1 Volumes sold as certified are recorded in the Rainforest Alliance traceability platform at the latest two weeks after the end of the quarter within which the shipment took place. (Core requirement for group management, and for individual certification) 2.3.3 Volumes sold as certified meet the minimum percentage requirements for origin matching. This is only applicable for cocoa mass balance products for which origin matching rules are required. (Core requirement for group management, and for individual certification) 2.3.4 Purchase and sales documentation for volumes sold as certified include origin information to country level for incoming certified and non-certified volumes. This is only applicable for cocoa mass balance products for which origin information to country level for incoming certified and non-certified volumes. This is only applicable for cocoa mass balance products for which origin matching rules are requirement for group management, and for individual certification)		According to the EUDR, the geolocation must be represented by a polygon for plots of land larger than 4 ha, and can be represented by a point for the other cases. In the first cycle of certification, the scheme requires polygons for large farms under group certification, and for farms under individual certification. By the end of the second cycle of certification, polygons must also be available for small farms under group certification. The two gaps in this case would be the cases where one farm is represented by more than one plot of land (according to the EUDR definition) and the lack of the link to the time range of production.
	 <u>RA SCR v1.3</u> 2.1.11 A volume summary of certified product is provided for the previous 12 months. This includes inputs, volume purchased, in stock, processed, outputs, lost and sold (as applicable). 2.1.12 Documentation includes traceability type and percentage (when applicable) when there is a change in legal ownership and/or physical possession of the certified product. 2.1.13 There is evidence (documentation on incoming and outgoing product, onsite procedures, reports) that any Rainforest Alliance claim made is valid and complies with Rainforest Alliance Certification Program requirements. 2.2.1 Volumes sold as certified are recorded in the Rainforest Alliance traceability platform at the latest two weeks after the end of the quarter within which the shipment took place. 2.3.3 Volumes sold as certified meet the minimum percentage requirements for origin matching. This is only applicable for cocoa mass balance products for which origin matching rules are required. 2.3.4 Purchase and sales documentation for volumes sold as certified include origin information to country level for incoming certified and non-certified volumes. This is only applicable for cocoa mass balance products for which origin 		Therefore, this indicator was classified as PC.

Indicator	Evidence	Outcome	Justification
	matching rules are required.		
B.2.1	 <u>RA FR v1.2</u> 2.1 Traceability 2.1.3 Certified products are visually separated from non-certified products at all stages, including transport, storage, and processing. This is not applicable for mass balance products. (<i>Core requirement for group management, and for individual certification</i>) 2.1.4 Management has mapped the product flow up to the final location of the certificate scope, including all intermediaries (collection points, transport, processing units, warehouses, etc.) and activities carried out on the product. (<i>Core requirement for group management, and for individual certification</i>) 2.1.5 Products that are sold as certified can be traced back to the certified farm(s) where these were produced. (<i>Core requirement for group management, and for individual certification</i>) 2.1.5 Products that are sold as certified can be traced back to the certified farm(s) where these were produced. (<i>Core requirement for group management, and for individual certification</i>) <u>RA SCR v1.3</u> <u>1.1 MANAGEMENT</u> <u>1.1.3 There is a clearly documented and implemented management plan which addresses each applicable Rainforest Alliance Supply Chain requirement. Documented procedures include control of certified products for all applicable processes, included in the certificate scope, to maintain product integrity.</u> <u>1.4 INTERNAL INSPECTION AND SELF-ASSESSMENT</u> <u>1.4.1 An internal inspection system is in place to assess compliance of group members (for farms) sites and/or other actors in scope with the Rainforest</u> 	FC	The scheme requires the visual separation of certified products from non-certified products at all stages, including transport, storage, and processing. This is the case for the IP and the SG traceability systems and does not apply for the MB system. Thus, only IP and SG maintain the social and environmental requirements for the production according to the scheme, which must be taken into account for the operators. Products sold under the MB system are addressed in the next indicators. The scheme also requires a management plan, procedures, inspection system and self-assessment in relation to all applicable requirements. Thus, considering the IP and SG systems, this indicator was classified as FC.
	Alliance Sustainable Agriculture Standard. 1.4.2 Management carries out a yearly self-assessment to evaluate its own compliance and that of all actors in its certification scope with the Rainforest Alliance Sustainable Agriculture Standard.		
	2.1 TRACEABILITY2.1.3 Certified products are visually segregated from non-certified products at all stages, including transport, storage, and processing.2.1.4 Management has mapped the product flow up to the final location of the certificate scope, including all intermediaries (collection points, transport,		

Indicator	Evidence	Outcome	Justification
	processing units, warehouses, etc.) and activities carried out on the product.		
	<u>Annex Chapter 2: Traceability v1.1</u> Same as B.1.1.		
B.2.2	 <u>RA_FR_v1.2</u> 2.3.2 The volume of product sold as mass balance is 100% covered by volumes purchased as certified. A negative volume balance is not permitted at any time. (Core requirement for group management, and for individual certification) 2.3.3 Volumes sold as certified meet the minimum percentage requirements for origin matching. This is only applicable for cocoa mass balance products for which origin matching rules are required. (Core requirement for group 	NC	Cocoa is the relevant commodity from the EUDR that can be traded in the MB system. In this system, the certified and non-certified products can be mixed, but no more volume of product is sold as certified than what was initially purchased as certified.
	 management, and for individual certification) 2.3.4 Purchase and sales documentation for volumes sold as certified include origin information to country level for incoming certified and non-certified volumes. This is only applicable for cocoa mass balance products for which origin matching rules are required. (<i>Core requirement for group management, and for individual certification</i>) 2.3.5 Movement of mass balance volumes from one certificate holder to another shall always be accompanied by a physical shipment of relevant product. Volume trading without a physical shipment can only take place between sites covered under the same certification) RA SCR v1.3 2.3.2 The volume of product sold as mass balance is 100% covered by volumes 		There are requirements to assure the equivalence of volumes purchased and sold as certified. However, there is no control of social and environmental performance of the non- certified material. The only control is for the geographical origin of cocoa products. In this case, origin matching is required, and the conventional product must come from the same origin from the certified product that is being mixed with. A regional approach may be used for small countries, which is established in a table (e.g., West Africa, South America). However, this is the only concern regarding the origin of cocoa products.
	purchased as certified. 2.3.3 Volumes sold as certified meet the minimum percentage requirements for origin information. 2.3.4 Purchase and sales documentation for volumes sold as certified include origin information to country level for incoming certified and non-certified volumes.	T c c c c c c c c c c c c c c c c c c c	Therefore, cocoa traded under the MB system can be produced in land where deforestation occurred. Operators need to have this in mind, as only cocoa traded under IP or SG systems are expected to follow the scheme rules for deforestation. This indicator was classified as
	<u>Annex Chapter 2: Traceability v1.1</u> For the cocoa sector, the following origin matching requirements and definitions apply:		NC.

Indicator	Evidence	Outcome	Justification
	Origin matching is required for all transactions completed in the traceability platform with contracts signed from April 1st, 2021 for phase 1 requirements, and October 1, 2023 for phase 2 requirements, as indicated in this document. This includes all mass balance certified cocoa. Origin matching means: When a volume of certified cocoa is purchased, in order to sell an equivalent volume of conventional cocoa as certified, the origin of both volumes needs to be the same (per transaction or on an aggregate basis).		
B.2.3	Same as above.	NC	Considering what was exposed above, the conventional cocoa products entering the supply chain under the MB system are also not checked for production in accordance with relevant legislation in the country of production. Therefore, this indicator was classified as NC.
B.2.4	Same as above.	NC	As there no social and environmental requirements for the conventional material entering the supply under the MB system, the scheme does not provide any mechanisms to manage the risk of material from other sources to be associated with deforestation and non-compliance with legislation. Therefore, this indicator was classified as NC.
C.1.1	NA	NA	The standards from the scheme are not locally adapted or internationally endorsed.
C.2.1	 <u>RA FR v1.2</u> 1.1.5 Management appoints at least one management representative accountable for the following issues and forms committee(s) of responsible persons. (Core requirement for large farms under group certification, group management, and for individual certification) One committee may cover more than one issue: Grievance mechanism (see 1.5) Gender equality (see 1.6) Assess-and-address child labour, forced labour, discrimination, and workplace violence and harassment (see 5.1) 	PC	The scheme requires that management conducts a risk assessment of in relation to the requirements of the standard, by using the Risk Assessment Tool, at least every three years. If relevant, the risk assessment may be reviewed and updated yearly. The Risk Assessment Tool is made available via questionnaire in an Excel file, with questions for relevant requirements and related risk mitigation measures.
	1.3.1 Management conducts a risk assessment in relation to the requirements in this Standard, by using the Risk Assessment Tool, at least every three years.		The scheme also requires CHs to carry out a yearly self-assessment to evaluate their own

Indicator	Evidence	Outcome	Justification
ndicator	 Evidence If relevant, the risk assessment may be reviewed and updated yearly. The risk mitigation measures are included in the management plan. (<i>Core requirement for large farms under group certification, group management, and for individual certification</i>) 1.3.2 Management makes a management plan that includes the goals and actions based on the Risk Assessment (1.3.1) and self-assessment (1.4.2). For groups, the management plan is additionally based on the Management Capacity Assessment Tool (1.1.1) and internal inspection (1.4.1). Management Capacity Assessment Tool (1.1.1) and internal inspection (1.4.1). Management Capacity Assessment Tool (1.1.1) and internal inspection (1.4.1). Management reports on the implementation of the management plan yearly. The management plan is updated yearly. (<i>Core requirement for large farms under group certification, group management, and for individual certification</i>) 1.4.2 Management carries out a yearly self-assessment to evaluate its own compliance, and that of all actors in its certification scope, with all relevant requirements in the Standard. (<i>Core requirement for group management, and for individual certification</i>) Management uses the results of the internal inspections as set out in 1.4.1. to complete the self-assessment. 1.5.1 A grievance mechanism is in place that enables individuals, workers, communities, and/or civil society, including whistle-blowers, to raise complaints related to the certificate holder's business activities. Complaints can relate to any part of the Standard, including technical, social, or economic issues. The grievance mechanism includes at least the following elements: A grievance mechanism allows for submissions in any language and is accessible to persons who cannot read or do not have access to the internet. Anonymous grievances are accepted, and confidentiality is respected. Human and labour rights grievances are remediated in accordance with the Remedia	Outcome	Justification compliance, and that of all actors in th certification scope, with all relevant requirement in the standard. CHs must make a management plan that includes the goals and actions base on the results of the risk assessment and sel assessment. Furthermore, CHs must also have a grievance mechanism in place that enables individuals workers, communities, and/or civil society including whistle-blowers, to raise complaint related to the certificate holder's business activities. A guidance document provide guidelines on the grievance mechanism. Overal the scheme presents several mechanisms for CHs to monitor and assure compliance with th standards. However, there are not basis requirements for the documentation of procedures, as well as requirements for the structure of the management in charge of compliance of the scheme, such as personner responsibilities, and competence. Thus, this indicator was classified as PC.

Indicator Evidence

Outcome Justification

termination, retribution, or threats as a consequence of using the grievance mechanism.

RA SCR v1.3

1.1.3 There is a clearly documented and implemented management plan which addresses each applicable Rainforest Alliance Supply Chain requirement. Documented procedures include control of certified products for all applicable processes, included in the certificate scope, to maintain product integrity.

1.4.1 An internal inspection system is in place to assess compliance of group members (for farms), sites, and/or other actors in scope with the Rainforest Alliance Sustainable Agriculture Standard. The system includes:

- Yearly inspection of each group member (for farms), (processing) site and any other actor (including subcontractors, intermediaries, service providers) in the certification scope. Before the first certification audit, all these actors need to be internally inspected.
- The scope in the first year of certification is: all applicable requirements of the Rainforest Alliance Sustainable Agriculture Standard
- The scope during consecutive years is based on the Risk Assessment (for farms, see 1.3.1), on the previous year's internal inspection and on audit results.

For farm scope only: a rotation system is in place so that each farm unit is inspected at least every 3 years. In case of remote farm units, this is done at least every 6 years.

1.4.2 Management carries out a yearly self-assessment to evaluate its own compliance and that of all actors in its certification scope with the Rainforest Alliance Sustainable Agriculture Standard.

For farm certificate holders, the self-assessment includes the results of the internal inspections of the group members and other entities covered in the certificate (including subcontractors, intermediaries, service providers, and processing sites).

For multi-site supply chain certificate holders, the self-assessment includes the internal inspections of the sites, including subcontractors.

1.5.1 A grievance mechanism is in place that enables individuals, workers, communities, and/or civil society, including whistle-blowers to raise their complaints of being negatively affected by specific business activities and/or

Indicator	Evidence	Outcome	Justification
	operations of any nature, including technical, social, or economic nature. The grievance mechanism may be provided directly through collaboration with other companies, or through an industry program or institutionalized mechanism and in accordance with the United Nations Guiding Principles (UNGPs). The grievance mechanism should be accessible, in local languages, and also for those who cannot read or do not have access to internet.		
C.2.2	 <u>RA_FR_v1.2</u> 1.2.9 Records for certification purposes and compliance are kept for at least four years. (Core requirement for small and large farms under group certification, group management, and for individual certification) <u>RA_SCR_v1.3</u> 1.2.9 Records for certification purposes and compliance are kept for at least four years. 	PC	Even though there is a specific requirement on how long the records for certification purposes and compliance must be kept, the time required is for 4 years. As the indicator requires keeping the record for at least 5 years, it was classified as PC.
C.3.1	 <u>RA CAR v1.2</u> 1.7 NON-CONFORMITIES AND POSSIBLE CONSEQUENCES This section explains what the possible consequences are in case of NC and how this relates to the performance system. 1.7.5 All NCs found against applicable mandatory requirements during a certification audit shall be closed before the CH may be certified. 1.7.6 If a NC is found for any part of the CH or entity falling under its responsibility, the entire CH shall not be certified before the NC is closed. 1.7.7 If one or more NCs are found during any audit performed while the certificate is still active (surveillance or investigation audit), the CH shall not have its active certificate or volume cancelled unless the CB decides to do so in case of non-certification. However, all NCs with applicable requirements shall be closed within the time frame mentioned in the certification process for the CH to maintain its certification. 1.7.9 Where an NC is raised to a CH, the CH shall determine and implement the appropriate correction and corrective action to prevent recurrence of the NC. 	PC	Non-fulfilment of any applicable requirements results in one or more NCs. All NCs found against applicable mandatory requirements during a certification audit shall be closed before the CH may be certified. In case NCs are identified while the certificate is still active (surveillance or investigation audit), NCs must be closed within the time frame for the CH to maintain its certification. The maximum time for closing a NC (meaning undertake the corrective actions and submit evidence to the CB) is 10 weeks. If the corrective action demands more time, it must at least be implemented within the timeframe. The CB may decide to immediately cancel the
	 a. Root cause, b) Correction, c) Corrective action, d), e) A time frame in which corrections and corrective actions shall be undertaken and evidence submitted to the CB, with a maximum of 10 weeks. 		current certificate of the CH and/or decide not to certify the CH in a series of cases. Among them, in the case of irreversible non-compliant practices that cannot be corrected (which includes conversion of natural forest after the

Indicator	Evidence	Outcome	Justification
ndicator	Evidence 1.7.11 The CB shall agree or disagree with the proposed corrective action plan. If the CB disagrees, the CB shall justify the reasons and the CH shall submit a new corrective action plan. 1.7.12 The CB shall verify that the corrections and corrective actions have been taken and have been effective in eliminating the NC and its root cause through a follow-up audit. 1.7.14 The CB or the Rainforest Alliance may decide to immediately cancel the current certificate of the CH and/or decide not to certify the CH for any of the reasons set forth below in requirements 1.7.16 until 1.7.24, or any other reason if necessary to protect the credibility of the Rainforest Alliance certification program. 1.7.15 In such a circumstance, the CB may request that the Rainforest Alliance prohibit certification for the CH for an indefinite period, based on the audit findings. 1.7.16 Corrective actions have not been implemented satisfactorily within the timeframe described in the certification process above	Outcome	Justification cut-off date) and in the case of violations of applicable national, regional, local or sectoral law related to the requirements in the standard. However, the wording used is "may decide", meaning that there is no guarantee that certificate will be cancelled in these cases. Therefore, it is possible to have products from the scheme associated with deforestation and non-compliance with legislation, because certificates might not be cancelled. Further evidence is needed to understand how the scheme addresses the cases that are of particular interest of this assessment (e.g., evidence of cancelling certificates for farms
	 timeframe described in the certification process above. 1.7.17 Evidence of fraud, inaction or cover-up. 1.7.18 Bribery/intimidation/harassment of the auditor. 1.7.19 Systemic issues with irreversible26 non-compliant practices that cannot be corrected, for example (but not limited to): c. Conversion of forests or other natural ecosystems to agricultural production or other land uses that occurred after January 1st, 2014. For 		evidence of cancelling certificates for farms conducting deforestation, or engaging in illegal activity). Because of the gaps identified, this indicator was classified as PC.
	 more information see Annex CR1: Geodata and risk maps in this document. 1.7.20 Systemic failure of the Internal Management System of the CH. 1.7.21 Severe human rights cases. 1.7.22 Violations of applicable national, regional, local or sectoral law or collective 		
	bargaining agreements related to the requirements in the Standard that apply to the CH. 1.7.23 The CB may decide to cancel the certification of the CH by withdrawing their certificate or issue a non-certification for the reasons stated above. Cancellation or non-certification cannot be lifted. In order to recertify the CH shall		
	receive a new certification audit. 1.7.24 Systematic lack of evidence or data on a large scale or misrepresentation or falsifications of data and evidence.		

Indicator	Evidence	Outcome	Justification
	ANNEX CR1: GEODATA AND RISK MAPS Deforestation and encroachment into protected areas This section explains the rules that apply for use of the RA geodata risk maps for deforestation and Protected Areas internally by the CH, as well as by the CB. Internal verification by CH management. (This table explains how to assess points and polygons against the rules for conversion. In general terms, locations classified as high risk by the scheme should not be included in the certification process, unless there is proof that conversion has not occurred. If minor conversion has occurred in terms of the standard, a restoration/compensation plan that shall be developed. More details are available in the annex)		
C.3.2	 RA RCB v1.2 ISO/IEC 17065 and 17021 accreditations 1.2.13 The CB shall be ISO/IEC 17065 or ISO/IEC 17021 (latest versions) accredited and comply with the following accreditation conditions: a. Accredited for a certification scheme accepted by the Rainforest Alliance, related to social or environmental issues in agriculture. b. Accredited by an accreditation body that is a member of the International Accreditation Forum (IAF) that has signed a multilateral agreement (MLA) with IAF, or full member of ISEAL Alliance 1.2.14 The accepted accreditation scopes are: a. ISO/IEC17065 for Sustainable Agriculture or Supply Chain certification. b. ISO/IEC17021 for Supply Chain certification only. 1.2.15 The CB shall maintain ISO17065 or ISO17021 accreditation as described above. Failure to maintain accreditation, or lapse of accreditation, will result in the immediate suspension or cancellation of the Rainforest Alliance authorization. 1.2.16 Rainforest Alliance Assurance System rules are additional to ISO17065 or ISO17021 rules. a. The CB shall apply all ISO17065 or ISO17021 rules, including its annexes, to the CB's certification activities and standardized operational procedures and policies that fall under the CB's authorized scope for the Rainforest Alliance. b. In case of discrepancy between what is required in an ISO rule and what is required under a Rainforest Alliance rule, shall prevail, unless 	FC	The scheme requires that CB are ISO/IEC 17065 or ISO/IEC 17021 (latest versions) accredited, thus covering the topics addressed in this indicator. The document laying down the rules for CBs provide additional requirements, and the stricter (between ISO and the scheme) must be adopted. The scheme provides several rules for managing impartiality and conflicts of interests, as well as details on the structure and qualification of the personnel from the certification body. Therefore, this indicator was classified as FC.

Indicator	Evidence	Outcome	Justification
	stated otherwise by the Rainforest Alliance. The Rainforest Alliance reserves the right to make the final decision on interpretation in case of any discrepancy or unclarity in the interpretation of the ISO rules in the scope of Rainforest Alliance certification.		
	Management of impartiality and conflict of interest 1.3.39 As part of its risk management system, the CB shall define and document potential risks to impartiality and conflicts of interest within its certificate holders and how these potential risks and conflicts should be avoided or mitigated. 1.3.40 The CB shall have a mechanism to monitor and manage these risks and conflicts since the start of the certification process. 1.3.41 The CB shall have a written conflict of interest and impartiality management procedure.		
	Competence management 1.3.98 The CB shall manage and be responsible for the competence and performance of the Certification Team (CB personnel and contracted consultant involved in the certification process). 1.3.99 The CB is responsible for identifying competent personnel to integrate into the Certification team and ensure their competence to perform the work. 1.3.100 The CB shall register the contact information of the Certification Team in the Rainforest Alliance Assurance Platform and update any change. 1.3.101 The CB shall have described and implemented a competence management policy and procedure according to requirements set out in ISO/IEC 17065 section 6.1.2. 1.3.102 The description of each member of the Certification Team in the Rainforest Alliance Assurance Platform shall contain at least the evidences of meeting the requirements for each role as defined in this document in Chapter 2.		
	CHAPTER 2: RULES FOR CERTIFICATION BODIES PERSONNEL 2.1 CB PERSONNEL STRUCTURE The Rainforest Alliance authorized CB structure consists of two sub-teams: the Program Management team and the Audit team. (<i>This section details the</i> <i>attributions of each role under each team</i>). 2.2 PERSONNEL APPROVAL REQUIREMENTS		

Indicator	Evidence	Outcome	Justification
	Approval requirements outline compulsory competencies for CB personnel who wish to be authorized to provide certification services to their clients under the Rainforest Alliance 2020 Certification Program. (<i>This section details the required qualifications for each role under each team</i>).		
C.3.3	 RA CAR v1.2 1.5 VERIFICATION METHOD-CB AUDIT Types of audits Certification/Recertification audit: All farm CHs and CHs in verification levels B to E, shall receive a certification audit in order to become part of the Rainforest Alliance certification program. They shall receive a recertification audit once every 3 years to remain part of the Rainforest Alliance certification program. Surveillance audit: In order to maintain its Certificate, a CH shall receive a yearly surveillance audit. Supply chain CHs may be exempted from receiving external surveillance audit or all surveillance audits based their risk level. Follow-up audit: Where NCs are identified during the (re)certification or surveillance audit to CB shall perform a remote or onsite follow up audit to verify closure of the NCs. Surprise audit: In addition to the certification and surveillance audits, the CB shall carry out surprise audits on at least 10% of the CHs in their portfolio of Rainforest Alliance CHs to verify continuity of conformity of the selected CHs. Investigation audit: In case of changes in the scope of a CH that is already certified, an extension audit may be required depending on the scope of the extension (usually additions to the scope). Extension audits shall be performed by the CB of the CH. 	PC	The scheme defines a series of types of audits. Some of them only occur in certain circumstances (e.g., follow-up audit to verify NCs, investigation audit to verify complaints). In general, only one certification/recertification audit (which happens in the beginning of each 3-year certification cycle) and two surveillance audits (in the following 2 years of the certification cycle) are guaranteed. The surveillance is a full-scope audit. Even though one audit occurs every year, the timeframe adopted allows for checks in intervals longer than 12 months (see 1.5.33 and 1.5.34). Therefore, this indicator was classified as PC.

Indicator	Evidence	Outcome	Justification
	 Review audit: A review audit is an audit carried out by the Rainforest Alliance to evaluate and monitor the performance of the CB by performing an audit to a CH after a CB audit and comparing audit findings of the CB auditor/audit team and the Rainforest Alliance auditor. 		
	Surveillance audit 1.5.33 If a first surveillance audit is required as per the section on external verification of compliance in this document, the first surveillance audit shall always take place 9 to 15 months after the date of certification. 1.5.34 If a second surveillance audit is required, the second surveillance audit shall always take place 21 to 27 months after the date of certification. 1.5.35 If the surveillance audit does not take place during the given timeframes, the valid certificate and license shall be cancelled and a new certification audit shall take place for the CH to become certified again. 1.5.36 A surveillance audit is a full-scope audit. The CB may decide to adjust the audit sample (group members, interviews, documents, sites etc.) and audit duration on-site as relevant to achieve the audit objectives. 1.5.37 The surveillance audit shall be performed preferably when the greatest number of higher-risk activities are performed and/or when the CB estimates that the greatest number of workers will be present. 1.5.38 A surveillance audit that results in maintenance of certification, shall provide the CH with a license to use the RA traceability platform, issued by the Rainforest Alliance.		
C.3.4	 <u>RA CAR v1.2</u> 2.4 SAMPLING Audit evidence collected in an audit is based on a sample of the information available. Therefore, determining representative samples with appropriate sizes prior to the audit and adjusting these samples during the audit following the risk-based audit principle are vital to achieve the audit objectives. This document refers to different types of samples, including for example, of farmers, of workers, of documents and with different sample size requirements. The risk different topics present may also affect the overall sample size of the audit. 2.4.1 The CB shall develop and effectively implement a documented procedure for sample determination based on the audit risk assessment conducted by the 	FC	The scheme has clear and extensive rules on data sources for conformity assessment. A section is dedicated to management system audit and document review, stating that the audit team must evaluate all types of documents required to confirm conformity with all applicable standard requirements. In Annex AR2, a list of relevant documents is provided, as well as procedures to sample these documents. Evidence is also gathered from interview with workers. Annex AR3 defines the rules for calculating the number of worker interviews and

Indicator	Evidence	Outcome	Justification
Indicator	 Evidence CB prior to the audit and results from the Rainforest Alliance risk assessment system, where applicable, and risks emerging during the audit. 2.4.2 For all sampling activities, the CB shall ensure the most representative sample possible, using stratified random sampling, to effectively review and verify evidence of (non)conformity of the CH. Additional requirements for farm audits 2.4.8 The audit team shall visit a representative sample of human dwellings, e.g. homes and temporary houses, using a risk-based approach to make factual observations on conformity with requirements on social topics and requirements that have a possible impact on human health/safety, such as chemical storage, reuse of chemical containers, waste disposal, potable water, storage of chemical equipment and PPEs and/or risks of other applicable standard requirements. 2.4.11 For a farm visit, the following additional sampling requirements apply: (<i>List the rules from item a to g</i>) 2.4.13 For a group certification audit, the following additional requirements apply: (<i>List the rules from item a to g</i>) 2.4.16 For a multi-site SC audit, the following additional sampling requirements apply: (<i>List the rules from item a to d</i>) 2.8 FACILITY TOUR Applicable to farm and supply chain audits The purpose of the facility tour is to enable the audit team to observe the physical conditions and current practices in all areas of the facility to form a view of how physical conditions and practices measure up to standard requirements. The tour 	Outcome	Justification worker files. Annex AR4 defines the rules for auditing social topics, which include stakeholder consultation. Annex AR6 defines the rules for auditing deforestation, which includes a series of guidelines on determining the samples based on a geodata risk assessment, as well as relevant evidence to be observed during field inspection. The scheme also presents clear rules for sampling the farms, purchase/buying centres, processing units and other facilities to be sampled in the audits, depending on the scope (farm, multiple farms, group, or supply chain), and using a risk-based approach (increase samples in contexts of high risk of non- compliance). Therefore, this indicator was classified as FC.
	physical conditions and practices in all areas of the facility to form a view of how physical conditions and practices measure up to standard requirements. The tour is also an opportunity to hold unstructured conversations/interviews with management and workers and to seek site-based evidence to support findings.		
	2.9 MANAGEMENT SYSTEM AUDIT AND DOCUMENT REVIEW Applicable to farm and supply chain audits 2.9.1 In general, the audit team shall evaluate all types of documents required to		

Indicator	Evidence	Outcome Justification
	confirm (non)conformity with all applicable standard requirements during the audit.	
	2.9.3 The CB audit team shall verify at minimum the following documents of the MS:	
	a. The CB audit team shall follow the minimum number of verifications of the documents as per Annex AR2: Minimum requirements for document sampling. The audit team may increase the sample size where new information and/or emerging risk(s) have been identified.	
	ANNEX AR2: MINIMUM REQUIREMENTS FOR DOCUMENT SAMPLING Applicable to both farm and supply chain audits This annex provides requirements for the audit team to sample documents at different locations during a certification or surveillance audit of the CH's Management System	
	1. The audit team shall verify at least the types and number of documents included in the table below. Includes: Policies and procedures; Purchase/sales contracts; MS staff records; Training records; CH risk assessment; Purchase records; Sales records; Internal inspector files; Management plan; Contracts with group members; Maps, polygons; Internal inspections and farm documentation; Approvals and sanctions.	
	ANNEX AR3: CALCULATING THE NUMBER OF WORKER INTERVIEWS AND	
	The table below provides the requirements on determining the minimum number of interviews to be done and the number of worker files to be reviewed based on the number of non-administrative workers of the CH in the certification scope. The number of interviews, individual or group, can always be increased depending on the risks identified before or during the audit.	
	ANNEX AR4: AUDITING SOCIAL TOPICS Applicable to farm audits and to supply chain audits that have social topics in	
	AR4.2 STAKEHULDER CONSULTATION	
	Standard audits that have high risk of child labour and/or forced labour based on	

ndicator	Evidence	Outcome	Justification
	the Rainforest Alliance child labour and forced labour sector risk maps and/or high or very high risk of non-conformity for freedom of association as identified by		
	the CB (through the audit risk assessment during audit preparation) and/or the		
	Rainforest Alliance.		
	ANNEX AR6: AUDITING DEFORESTATION AND ENCROACHMENT INTO PROTECTED AREAS		
	2. The CB shall use the geodata risk assessment results (see Annex AR5: Using		
	geodata and geodata risk maps in an audit) as an indicator of risk of the CH.		
	3. The audit team shall use the final geodata risk assessment in preparing the		
	audit and choosing the audit sample (see Annex AR5: Using geodata and		
	geodata risk maps in an audit).		
	4. In addition to the geodata risk maps, the audit team shall use different factors		
	to assess the geodata risks, including but not limited to, new production areas,		
	purchases of new land, and new infrastructure, or large increases in production		
	5. Drier to the audit the audit team shall research whether there are protected		
	areas and/or important ecosystems in the areas under the audit and to be		
	knowledgeable of the rules and laws of protected areas including buffer zones		
	for the specific context of the audit. The results of such research shall be		
	recorded by the audit team in corresponding certification file which will be made		
	available to the Rainforest Alliance upon request.		
	6. The audit team shall verify deforestation at different stages, i.e. in the farm, at		
	the factory/processing unit and at MS level.		
	7. During the visit, the audit team shall verify signs of recent deforestation in the		
	field such as:		
	a. Young age of crop trees; b. Young tree stumps; c. Recent changes in		
	bordering trees; d. Colonization of open spaces by pioneer species; e.		
	Cleared swaths in the forest or in production sites; f. Signs of recent fires;		
	g. Recent cut wood logs; h. High amounts of organic matter in the soil		
	when compared to other production sites (used as indication) etc.; I. The		
	audit team shall take pictures of relevant evidences and relain the picture		
	as part of the Certification file at the OD. The OD shall make such pictures		
	8 During visits of farm units with high deforestation risk or high risk of		

Indicator	Evidence	Outcome	Justification
	 encroachment to protected areas, i.e. evidence of recent deforestation from geodata risk assessment as described above or identified as high risk by the audit team with new information found onsite, the audit team shall exercise professional skepticism that conversion or expansion has happened and shall follow up to confirm the risk. 9. The audit team shall effectively incorporate the topic of deforestation in interviews with farmers, workers and other stakeholders where applicable. 		
	ANNEX AR7: AUDITING TRACEABILITY IN FARM AUDITS		
C.3.5	 <u>RA FR v1.2</u> 1.1.1 Group management demonstrates commitment to sustainable agriculture by dedicating adequate resources and staff to the implementation of the Rainforest Alliance Sustainable Agriculture Standard. (Core requirement for group management)	FC	The scheme presents requirements for group management to assure internal compliance across group members. These include dedicating adequate resources and staff to the implementation of the standard. Group management must also assess its own capacity every 3 years using a tool provided by the scheme, which must be improved overtime. Group management must carry a risk assessment in relation to the requirements of the standard. It must also conduct a self-assessment every year to assess its own compliance, and compliance of actors in the certification scope, with all applicable certification requirements.
	 Gender equality (see 1.6) Assess-and-address child labour, forced labour, discrimination, and workplace violence and harassment (see 5.1) 1.3.1 Management conducts a risk assessment in relation to the requirements in this Standard, by using the Risk Assessment Tool, at least every three years. (Core requirement for large farms under group certification, group management, 		Group management must implement an internal inspection procedure, including checks on farm members, processing and/or storing sites, and subcontractors. These must be inspected internally before each external visit (covering all applicable requirements in the first year of
	 and for individual certification) If relevant, the risk assessment may be reviewed and updated yearly. The risk mitigation measures are included in the management plan. 1.3.2 Management makes a management plan that includes the goals and 		certification and covering the results of the risk assessment and external audits in the consecutive years).

Indicator	Evidence	Outcome	Justification
	 actions based on the Risk Assessment (1.3.1) and self-assessment (1.4.2). For groups, the management plan is additionally based on the Management Capacity Assessment Tool (1.1.1) and internal inspection (1.4.1). Management reports on the implementation of the management plan yearly. The management plan is updated yearly. (<i>Core requirement for large farms under group certification, group management, and for individual certification</i>) 1.4.1 Management has an internal inspection system in place to annually assess compliance of all actors within the scope of certification. (Core requirement) The system includes: For Farms: group members' farms, processing and/or storage sites and any other actors (including subcontractors, intermediaries, service providers). For Supply Chain: sites and subcontractors. All actors are inspected internally before each external audit: In the first year of certification, the internal inspection covers all applicable requirements of the Standard. In consecutive years, the internal inspection is based on the Risk Assessment (for farms, see 1.3.1), the previous year's internal inspection and previous external audit results. For farm scope only: a rotation system is in place so that each farm unit is inspected at least every three years. In case of remote farm units this is done at least every six years. 1.4.2 Management carries out a yearly self-assessment to evaluate its own compliance, and that of all actors in its certification scope, with all relevant requirements in the Standard. (<i>Core requirement for group management, and for individual certification</i>) Management uses the results of the internal inspections as set out in 1.4.1. to complete the self-assessment. 1.4.3 An approval and sanction system are in place in relation to the compliance of group members (for farms) and/or sites with the Rainforest Alliance Sustainable Agriculture Standard. (<i>Core requirement for gr</i>		Group management must develop a management plan, which takes into account the risk assessment, the self-evaluation and the internal inspection. It must also have its procedures for approval and sanctions in relation to compliance of group members. It must also have a grievance mechanism in place. Overall, the scheme covers all the aspects listed in the guidance of this indicator, which was classified as FC.

Indicator	Evidence	Outcome	Justification
	 corrective measures A decision on each group member's/site's certification status that is signed and documented and included in the final internal inspection report 1.4.4 An internal inspector cannot inspect more than six farms per day. Internal inspectors have been trained, evaluated based on the training content, and have acquired skills on good internal inspection practices. 1.5.1 A grievance mechanism is in place that enables individuals, workers, communities, and/or civil society, including whistle-blowers, to raise complaints related to the certificate holder's business activities. Complaints can relate to any part of the Standard, including technical, social, or economic issues. The grievance mechanism may be provided by the certificate holder or by a third party. (Core requirement for large farms under group certification, group management, and for individual certification) 		
C.4.1	Evidence for sampling in group certification is listed in the previous Indicator. All standards and supporting documents are publicly available at: https://www.rainforest-alliance.org/business/certification/ Under the section "All resources for Certification", all documents can be accessed via a search bar, as well as filters (by audience, commodity, resource type, and tag). At the moment of this assessment (August of 2023), there were 157 documents under the resource type "Certification documents", including: standards, annexes, forms and templates, guidance, and policies and rules.	FC	A complete directory with relevant documents for the Rainforest Alliance system is publicly available online. Therefore, this indicator was classified as FC.
C.4.2	List of Certificate Holders: https://www.rainforest- alliance.org/business/certification/certificate-search-and-public-summaries/ View our database to search for all farms, farmer groups, and supply chain certificates in the Rainforest Alliance's certification program. In this webpage, there is an interface with Microsoft PowerBI with the list of all certificates. These can be filtered by the following fields: Certificate Holder Name and ID; Category, Crop; License Number; License Standard; License Status; Region, Country. License Status includes: Granted, Not Granted, Cancelled, Suspended. Each of these status are also defined. Thus, it is possible to check the validity of a certificate. It is also possible to download the list of certificate	FC	The scheme provides a list of CHs, including their status as valid or not. This indicator was classified as FC.

Indicator	Evidence	Outcome	Justification
	holders.		
	There is information on the last update. The webpage was accessed on several days during the assessment, and the updates occur continuously.		
C.4.3	<u>RA_CAR_v1.2</u> 1.10.8 The Rainforest Alliance reserves the right to make the following information publicly available: k. Audit results including NCs at an aggregated/country level	NC	The standard for certification and audit rules states that the scheme reserves the right to make publicly available audit results including NCs at an aggregated/country level. However, no evidence was found that summaries of audit reports are made publicly available for single CHs. Therefore, this indicator was classified as NC.
C.4.4	Global Code of Conduct ANTI-CORRUPTION POLICY It is the Rainforest Alliance's policy that all staff and other agents acting on behalf of the Rainforest Alliance ("Agents") must adhere strictly to all applicable anti- corruption and antibribery laws, including local bribery laws, the U.S. Foreign Corrupt Practices Act (the "FCPA"), the UK Bribery Act (if applicable), and all other anti-corruption laws of each country in which the Rainforest Alliance operates. The requirements of this Code apply even if local law permits business conduct otherwise prohibited by this Code. The Rainforest Alliance believes that strong adherence to an Anti-Corruption Policy both strengthens our operational efficiency and adds value to our work. In a global market, anticompetitive and corrupt practices are both unethical and unsustainable. You are required to contact your immediate supervisor (if you are an employee, intern, or volunteer) or Global Internal Compliance, and the General Counsel whenever you think you may be engaging in conduct raising even potential issues under applicable anti-corruption and anti-bribery laws.	FC	The scheme has a Code of Conduct, where anti- corruption rules are established. There are also clear policies, procedures, and channels to handles complaints related to the scheme. Therefore, this indicator was classified as FC.
	(The Code further covers other topics, such as Gifts, Hospitality, and Loans - addressing issues related to "Prohibited Payment", "Government Official", "Facilitation Payment").		

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Indicator	Evidence	Outcome Justification

Questions and Complaints: <u>https://www.rainforest-alliance.org/business/certification/questions-and-complaints/</u>

If you have a grievance, appeal, issue, concern, problem, claim or misconduct (perceived or actual) related to our certification program, you can submit it to the Rainforest Alliance. We process complaints in accordance with our grievance procedure.

Rainforest Alliance Procedure - Grievance - Version 3.1

The grievance procedure is open to anyone who has a grievance against a Rainforest Alliance certified producer or supply chain actor, a certification body (CB), or the Rainforest Alliance itself, regarding the standards setting procedures or operations of the certification program.

Annex 7 – Full application of the assessment framework to Roundtable on Sustainable Palm Oil (RSPO)

Indicator	Evidence	Outcome	Justification
A.1.1	RSPO P&C 2018 Principle 7 PROTECT, CONSERVE AND ENHANCE ECOSYSTEMS AND THE ENVIRONMENT 7.12 Land clearing does not cause deforestation or damage any area required to protect or enhance High Conservation Values (HCVs) or High Carbon Stock	PC	The scheme requires that land clearing does not cause deforestation or damage any area required to protect or enhance HCVs or HCS forest.
	 (HCS) forest. HCVs and HCS forests in the managed area are identified and protected or enhanced. 7.12.1 (C) Land clearing since November 2005 has not damaged primary forest or any area required to protect or enhance HCVs. Land clearing since 15 November 2018 has not damaged HCVs or HCS forests. 7.12.2 (C) HCVs, HCS forests and other conservation areas are identified as follows: a) For existing plantations with an HCV assessment conducted by an RSPO-approved assessor and no new land clearing after 15 November 		According to indicator 7.12.1 from the P&C standard, land clearing since November 2005 has not damaged primary forest or any area required to protect or enhance HCVs. Furthermore, land clearing since November 15 th , 2018, has not damaged HCVs or HCS forests. Indicator 7.12.2 states any new land clearing after 15 November 2018 must be preceded by an HCV-HCS assessment.
	 2018, the current HCV assessment of those plantations remains valid; b) Any new land clearing (in existing plantations or new plantings) after 15 November 2018 is preceded by an HCV-HCS assessment, using the HCSA Toolkit and the HCV-HCSA Assessment Manual. This will include stakeholder consultation and take into account wider landscape-level considerations. 7.12.8 (C) Where there has been land clearing without prior HCV assessment since November 2005, or without prior HCV-HCSA assessment since 15 November 2018, the Remediation and Compensation Procedure (RaCP) applies. 		Therefore, the scheme allows the conversion of forests not falling under the definition of HCV and HCS. Whenever conversion of land occurred prior to HCV assessment since November 2005, or prior to HCV-HCSA assessment since 15 November 2018, a Remediation and Compensation Procedure (RaCP) applies. This inadequate conversion is said to have occurred due to unfamiliarity with RSPO's requirements at
	Annex 1 DEFINITIONS High Carbon Stock forest: Forests that have been identified using the High Carbon Stock Approach (HCSA) Toolkit. High Conservation Value (HCV) areas: The areas necessary to maintain or enhance one or more High Conservation Values (HCVs): HCV 1 – Species diversity; HCV 2 – Landscape-level ecosystems, ecosystem mosaics and Intact Forest Landscapes (IFL); HCV 3 – Ecosystems and habitats; HCV 4 – Ecosystem		the time, activities by previous owners, mistakes, or poorly implemented operational procedures. Another important aspect is that land clearing is defined as the conversion of land from one land use to another, while noting that the clearing of less than 10 ha within existing certified units is

Indicator	Evidence	Outcome	Justification
	services; HCV 5 – Community needs; HCV 6 – Cultural values. Land clearing: Conversion of land from one land use to another. Clearing actively managed oil palm plantation to replant oil palm is not considered land clearing. Within existing certified units, clearing of less than 10 ha is not considered new		not considered new land clearing. Thus, this threshold of deforestation is also allowed by the scheme.
	 Iand clearing. <u>RSPO ISH 2019</u> Principle 4 Protect, conserve and enhance ecosystems and the environment 4.1 High Conservation Values (HCVs) on the smallholder plot or within the managed area and High Carbon Stock (HCS) forests identified after November 2019 using the simplified combined HCV-HCS approach, are managed to ensure that they are maintained and/or enhanced. 4.2 Where the existing smallholder plot has been planted and cleared after November 2005 or is on an area identified as HCS forest after November 2019 up to the eligibility period, a RaCP process appropriate for smallholders based on Land Use Change Analysis (LUCA) will be applicable (reference preamble). 4.3 New planting of independent smallholders, since November 2019: Do not replace any HCVs; Do not replace any HCS forests as defined by the simplified combined HCV-HCS approach; Are not on steep slopes (more than 25 degrees or as in the National Interpretation); Are not on peat areas of any denth 		Similar requirements apply in the case of independent smallholders, with a few differences. A simplified combined HCV-HCS approach applies, for example. But new plantations still cannot take replace HCV and HCS forests. As only HCV and HCS forests are covered, this indicator was classified as PC.
	<u>RSPO_RaCP_v2.0</u> In accordance with the RSPO Principles & Criteria (P&C), RSPO growers1 are required to have completed HCV assessments of their land holdings for new plantings from November 2005. The intention is that areas of land under the control of RSPO growers that contain or support High Conservation Values (HCV) are not cleared for planting after this date. However, there has been land clearance without prior HCV assessment since November 2005, and the RSPO recognises the importance of restoring or compensating for the potential HCV losses. It is also acknowledged that such land clearance may have been the result of a wide range of causes (including unfamiliarity with RSPO's requirements at the time, activities by previous owners,		

Indicator	Evidence	Outcome	Justification
	mistakes, or poorly implemented operational procedures). Therefore, rather than insisting on requirements that would forever bar certain growers from certification and even RSPO membership, the RSPO has developed a clear, formal, and transparent procedure to remediate and compensate for land clearance without prior HCV assessment since November 2005.		
A.1.2	 Pilot HCV assessment since November 2003. <u>RSPO P&C 2018</u> Annex 1 DEFINITIONS Deforestation: Loss of natural forest as a result of: i) conversion to agriculture or other non-forest land use; ii) conversion to a plantation forest; or iii) severe and sustained degradation. High Carbon Stock forest: Forests that have been identified using the High Carbon Stock Approach (HCSA) Toolkit. (Includes: High Density Forest, Medium Density Forest, Low Density Forest, and Young Regenerating Forest; excludes: Scrub, and Open Land). High Conservation Value (HCV) areas: The areas necessary to maintain or enhance one or more High Conservation Values (HCVs): HCV 1 – Species diversity; HCV 2 – Landscape-level ecosystems, ecosystem mosaics and Intact Forest Landscapes (IFL); HCV 3 – Ecosystems and habitats; HCV 4 – Ecosystem services; HCV 5 – Community needs; HCV 6 – Cultural values. Land clearing: Conversion of land from one land use to another. Clearing actively managed oil palm plantation to replant oil palm is not considered land clearing. Natural ecosystems All land with natural native vegetation including but not 	PC	Deforestation is defined as the loss of natural forest as a result of conversion to agriculture or other non-forest land use, conversion to a plantation forest, or severe and sustained degradation. This definition includes only natural forests, while the EUDR makes no distinction between types of forest. This definition also partially encompasses the EUDR definition for forest degradation (conversion to a plantation forest). As deforestation is within the definition of land clearing, the requirements for the latter (see the previous indicator of this framework) would apply to both deforestation and forest degradation. On the other hand, the scheme does not provide a formal definition of forest. Instead, all requirements are based on the concepts of HCV and HCS. These definitions are narrower that the one adopted by the EUDR. Therefore, this indicator was classified as PC.
	limited to native forests, riparian vegetation, natural wetlands, peatlands, grasslands savannahs and prairies		
A.1.3	 <u>RSPO P&C 2018</u> 7.12.1 (C) Land clearing since November 2005 has not damaged primary forest or any area required to protect or enhance HCVs. Land clearing since 15 	FC	Indicator 7.12.1 from the P&C standard requires that land clearing since November 2005 has not damaged primary forest or any area required to

Indicator	Evidence	Outcome	Justification
	 November 2018 has not damaged HCVs or HCS forests. <u>RSPO ISH 2019</u> Principle 4 Protect, conserve and enhance ecosystems and the environment 4.3 New planting of independent smallholders, since November 2019: Do not replace any HCVs; Do not replace any HCS forests as defined by the simplified combined HCV-HCS approach; Are not on steep slopes (more than 25 degrees or as in the National 		protect or enhance HCVs, and that land clearing since November 15 th , 2018, has not damaged HCVs or HCS forests. In the case of independent smallholders, the standard establishes that new planting since November 2019 does not replace HCV and HCS forests. All of these dates precede the cut-off date from the EUDR, and therefore this indicator was classified as FC.
	Interpretation);		
A.2.1	 Are not on peat areas of any depth. <u>RSPO P&C 2018</u> Principle 2 OPERATE LEGALLY AND RESPECT RIGHTS 2.1 There is compliance with all applicable local, national, and ratified international laws and regulations. 2.1.1 (C) The unit of certification complies with applicable legal requirements. 2.1.2 A documented system for ensuring legal compliance is in place. This system has a means to track changes to the law and also includes listing and evidence of legal due diligence of all contracted third parties, recruitment agencies, service providers and labour contractors. 2.1.3 Legal or authorised boundaries are clearly demarcated and visibly maintained, and there is no planting beyond these legal or authorised boundaries. 	PC	In Principle 2, the P&C standard requires compliance with all applicable local, national, and ratified international laws and regulations. In the case of independent smallholders, Principle 2 deals with ensuring legality, respect for land rights and community wellbeing. The criterion within this principle is related to land use rights and does not cover compliance with all applicable legislation as the P&C standard. The Supply Chain standard does not present a requirement for compliance with applicable law. Therefore, this indicator was classified as PC.
	<u>RSPO ISH 2019</u> Principle 2 Ensure legality, respect for land rights and community wellbeing		
A.2.2	RSPO P&C 2018 Principle 4 RESPECT COMMUNITY AND HUMAN RIGHTS AND DELIVER BENEFITS 4.1 The unit of certification respects human rights, which includes respecting the rights of Human Rights Defenders. 4.1.1 (C) A policy to respect human rights, including prohibiting retaliation against Human Rights Defenders (HRDs), is documented and communicated to all levels of the workforce, operations, supply chain and local communities and prohibits intimidation and harassment by the unit of certification and contracted services, including contracted security forces.	PC	In the P&C standard, compliance with specific legislation is directly mentioned in several requirements. Under Principle 4, there are several requirements related to human rights, land use rights, the rights of local communities, and the principle of FPIC. Principle 6 sets a series of requirements related to workers' rights and conditions, including in respect to legislation and human rights.
Indicator	Evidence	Outcome	Justification
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	4.1.2 The unit of certification does not instigate violence or use any form of		
	harassment, including the use of mercenaries and paramilitaries in their		Furthermore, Annex 2 states that relevant
	operations.		legislation for criterion 2.1 includes but is not
	4.4 Use of the land for oil palm does not diminish the legal, customary or user		limited to: regulations governing land tenure and
	rights of other users without their Free, Prior and Informed Consent.		land-use rights, labour, agricultural practices
	4.4.1 (C) Documents showing legal ownership or lease, or authorised use of		(e.g., chemical use), environment (e.g., wildlife
	customary land authorised by customary landowners through a Free, Prior and		laws, pollution, environmental management and
	Informed (FPIC) process. Documents related to the history of land tenure and the		forestry laws), storage, transportation and
	actual legal or customary use of the land are available.		processing practices. It also includes laws made
	4.5 No new plantings are established on local peoples' land where it can be		pursuant to a country's obligations under
	demonstrated that there are legal, customary or user rights, without their FPIC.		International laws or conventions (e.g., the
	This is dealt with through a documented system that enables these and other		Convention on Biological Diversity (CBD), ILO
	4.5.1 (C) Documents showing identification and assessment of domenstrable		Business and Human Dights) Eurthermore
	legal customary and user rights are available		where countries have provisions to respect
	4.8 The right to use the land is demonstrated and is not legitimately contested by		customary law these will be taken into account
	local people who can demonstrate that they have legal customary or user rights		These requirements cover items (a) (b) (d) (e)
	4.8.1 Where there are or have been disputes, proof of legal acquisition of title and		(f) and (g). Legislation related to item (h) is not
	evidence that mutually agreed compensation has been made to all people who		mentioned.
	held legal, customary, or user rights at the time of acquisition is available and		
	provided to parties to a dispute, and that any compensation was accepted		In the case of independent smallholders, the
	following a documented process of FPIC.		standard presents requirements mainly focused
			on land use rights, the rights of local
	Principle 6 RESPECT WORKERS' RIGHTS AND CONDITIONS		communities, the principle of PFIC, human rights,
	6.1 Any form of discrimination is prohibited.		and workers' rights. Items (a), (d), (e), (f) and (g)
	6.2 Pay and conditions for staff and workers and for contract workers always		are addressed. Items (b) and (h) are not
	meet at least legal or industry minimum standards and are sufficient to provide		mentioned. Therefore, this indicator was
	decent living wages (DLW).		classified as PC.
	6.3 The unit of certification respects the rights of all personnel to form and join		
	trade unions of their choice and to bargain collectively. Where the right to		
	amployer facilitates parallel means of independent and free association and		
	bargaining for all such personnel		
	6.4 Children are not employed or exploited		
	6.5 There is no harassment or abuse in the workplace, and reproductive rights		

are protected.6.6 No forms of forced or trafficked labour are used.6.7 The unit of certification ensures that the working environment under its control is safe and without undue risk to health.

ANNEX 2: GUIDANCE

Criterion 2.1

Relevant legislation includes but is not limited to: regulations governing land tenure and land-use rights, labour, agricultural practices (e.g. chemical use), environment (e.g. wildlife laws, pollution, environmental management and forestry laws), storage, transportation and processing practices. It also includes laws made pursuant to a country's obligations under international laws or conventions (e.g. the Convention on Biological Diversity (CBD), ILO Core Conventions, UN Guiding Principles on Business and Human Rights). Furthermore, where countries have provisions to respect customary law, these will be taken into account.

ANNEX 3: KEY INTERNATIONAL LAWS AND CONVENTIONS APPLICABLE TO THE PRODUCTION OF PALM OIL

<u>RSPO ISH 2019</u>

Principle 2 Ensure legality, respect for land rights and community wellbeing

2.1 Smallholders have legal or customary rights to use the land in accordance with national and local laws, and customary practices.

2.2 Smallholders have not acquired lands from indigenous peoples, local communities or other users without their free, prior and informed consent (FPIC), based on a simplified FPIC approach.

2.3 The right to use the land is not disputed by indigenous peoples, local communities or other users.

2.4 Smallholder plots are located outside of areas classified as national parks or protected areas, as defined by national, regional or local law, or as specified in National Interpretations.

2.5 For new planting, smallholders do not clear or acquire any land without obtaining FPIC of indigenous peoples and/or local communities and/or other users, based on a simplified FPIC approach.

Indicator	Evidence	Outcome	Justification
	 Principle 3 Respect human rights, including workers' rights and conditions 3.1 There is no use of forced labour.3.2Children are not employed or exploited. Work by children is acceptable on family farms, under adult supervision and when not interfering with education programmes. Children are not exposed to hazardous working conditions. 3.3 Workers' pay complies with minimum legal requirements, mandatory industry standards as defined by national law or collective bargaining, whichever takes priority in local regulations. 3.4 Workers understand their rights and freedom to file a complaint/grievance to group manager or relevant third parties, including RSPO. 3.5 Working conditions and facilities are safe and meet minimum legal requirements. 		
A.2.3	 <u>RSPO P&C 2018</u> Principle 2 OPERATE LEGALLY AND RESPECT RIGHTS 2.2 All contractors providing operational services and supplying labour, and Fresh Fruit Bunch (FFB) suppliers, comply with legal requirements. 2.2.1 A list of contracted parties is maintained. 2.2.2 All contracts, including those for FFB supply, contain specific clauses on meeting applicable legal requirements, and this can be demonstrated by the third party. 2.2.3 All contracts, including those for FFB supply, contain clauses disallowing child, forced and trafficked labour. Where young workers are employed, the contracts include a clause for their protection. 	PC	The P&C standard requires that all contractors providing operational services and supplying labour, and FFB suppliers, comply with legal requirements. For this, contracted parties are listed, and contracts contain specific clauses on meeting applicable legal requirements, and this can be demonstrated by the third party. The Supply Chain standard also requires that outsourced activities comply with the requirements. However, as seen in indicator A.2.2 of this framework, there is no requirement for compliance with law in this standard, and therefore subcontractors are not expected to be
	5.5.1 In cases where an operation seeking or holding certification outsources its activities to independent third parties (e.g. subcontractors for storage, transport, or other outsourced activities), the operation seeking or holding certification shall ensure that the independent third party complies with the requirements of the RSPO Supply Chain Certification Standard.		checked against this topic. For this reason, this indicator was classified as PC.
B.1.1	RSPO_SP_v2 2. Scope Oil palm products may go through many production and logistical stages between	FC	RSPO provides three types of traceability systems: a) IP, where there is no mixing of certified and non-certified products, and the

Indicator	Evidence	Outcome	Justification
	 the oil palm plantations to end products. The General Chain of Custody requirements of the RSPO Supply Chain Standard shall apply to any organisation throughout the supply chain that takes legal ownership and physically handles RSPO certified sustainable oil palm products at a location under the control of the organisation, including outsourced contractors. After the final process in the supply chain, there is no further requirement for application of this standard to that product. Any certified oil palm products can be traded through any of the four supply chain models that are approved by RSPO: Identity Preserved (IP) Segregated (SG) Mass Balance (MB) Module A – Identity Preserved (IP) supply chain model assures that the RSPO certified oil palm product delivered to the end user is uniquely identifiable to a single RSPO certified IP mill. All supply chain participants shall ensure that the RSPO certified oil palm product is kept physically isolated from all other oil palm 		certified products can be traced back to a sir RSPO certified IP mill; b) SG, where there is mixing of certified and non-certified products, the certified products are guaranteed to co from certified sources; and c) MB, which all for the mixing of certified and non-certified product, while controlling for the over quantities at the single site level. Only IP and systems guarantee that certified products co from certified sources, and therefore follow social and environmental requirements from scheme. Thus, the traceability system is releve for operators. This indicator was classified as
	Module B – Segregated (SG). B.1 Definition B.1.1 The Segregated (SG) supply chain model assures that RSPO certified oil palm products delivered to the end user come only from IP certified mills. It permits the mixing of RSPO certified oil palm products from a variety of certified sources.	d oil Is. It tified	
	Module C – Mass Balance (MB) C.1 Definition C.1.1 The Mass Balance (MB) supply chain model administratively monitors the trade of RSPO certified oil palm products throughout the entire supply chain, as a driver for mainstream trade in RSPO certified oil palm products. MB can only be operated at site level (mass balance claims cannot be transferred from site to site). The Mass Balance system allows for mixing of RSPO and non-RSPO		

Indicator	Evidence	Outcome	Justification
	certified oil palm products at any stage in the supply chain provided that overall site quantities are controlled. Certified oil palm products delivered to the end user under the Mass Balance supply chain model will be traceable to a list of RSPO certified mills.		
B.1.2	 <u>RSPO SP v2</u> 5.4. Purchasing and goods in 5.4.1. The receiving site shall ensure that the purchases of RSPO certified oil palm products are in compliance (checking the valid Supply Chain licence of the supplier to trade the products as RSPO certified products) and the following minimum information for RSPO certified products is made available by the supplier in document form: a) The name and address of the buyer; b) The name and address of the seller; c) The loading or shipment / delivery date; d) The date in which the documents were issued; e) A description of the product, including the applicable supply chain model (Identity Preserved, Segregated, Mass Balance, or the approved abbreviations); f) The quantity of the products delivered; g) Any related transport documentation; h) Supply Chain Certificate number of the seller; i) A unique identification number(s). 5.4.5 For refineries/traders involved in primary procurement (i.e. purchasing directly from a mill), the site shall maintain a list of all supplying mills (certified and 	PC	The scheme requires the registration of a series of information for the purchase of sale of certified products. This includes name and address of buyer and seller, date of shipment/delivery and document issue, description of the product (which includes the supply chain model), quantity of product, certificate number of the seller and a unique identification number. This covers items (a) and (b), and partially covers items (e) and (f). Country or area of production is not mentioned but is likely to be present in trade documents. For refineries/traders involved in primary procurement (i.e., purchasing directly from a mill), the site must maintain a list of all supplying mills (certified and non-certified). The list shall include mill name, GPS coordinates, parent company, country, and the identity of the mill in the Universal Mill List.
	 non-certified). The list shall include mill name, GPS coordinates, parent company, country, and the identity of the mill in the Universal Mill List (UML ID) (if applicable). The UML ID can also be found in the 'declaration of the conventional sources' list in the RSPO IT Platform. The list shall be updated on a six monthly basis and shall be made publicly available. 5.6. Sales and goods out 5.6.1 The supplying site shall ensure that the following minimum information for RSPO certified products is made available in document form: a) The name and address of the buyer; b) The name and address of the seller; 		Even though the IP system allows traceability back to one RSPO certified mill, the standard does not clarify the procedure and how actors in the supply chain can identify this location. Furthermore, traceability to the mill does not satisfy the EUDR requirement of the geolocation of the plot of land. Farms where the commodity was grown are still not identifiable. The time range of production is also not covered. The records related to the requirements of this standard must be kept for at least 2 years.

Indicator	Evidence	Outcome	Justification
	 c) The loading or shipment / delivery date; d) The date on which the documents were issued; e) A description of the product, including the applicable supply chain model (Identity Preserved, Segregated, Mass Balance, or the approved abbreviations); f) The quantity of the products delivered; g) Any related transport documentation; h) Supply Chain Certificate number of the seller; i) A unique identification number(s). 		Therefore, this indicator was classified as PC.
	 5.9. Record keeping 5.9.1 The organisation shall maintain accurate, complete, up-to-date, and accessible records and reports covering all aspects of these RSPO Supply Chain Certification Standard requirements. 5.9.2 Retention period for all records and reports shall be a minimum of two (2) years and shall comply with legal and regulatory requirements and be able to confirm the certified status of raw materials or products held in stock. 		
B.2.1	 <u>RSPO SP v2</u> 5. General Chain of Custody Requirements for the Supply Chain 5.3. Documented procedures 5.3.1. The site shall have written procedures and/or work instructions or equivalent to ensure the implementation of all elements of the applicable supply chain model specified. These shall include at a minimum the following: a) Complete and up-to-date procedures covering the implementation of all the elements of the supply chain model requirements. b) Complete and up-to-date records and reports that demonstrate compliance with the supply chain model requirements. 	FC	The scheme requires that sites managing certified products under the IP and SG systems assure physical isolation from non-certified oil palm products, including during transport and storage to strive for 100% separation. In the case of IP, certified products must also be uniquely identifiable to a single RSPO certified mill and be kept separated from oil palm products from other certified mills.
	 c) Identification of the roles of the person(s) having responsibility for and authority over the implementation of these requirements and compliance with all applicable requirements. This person(s) shall be able to demonstrate an awareness of the organisation's procedures for the implementation of this standard. 5.3.2. The site shall have a written procedure to conduct an annual internal audit to determine whether the organisation; a) conforms to the requirements in the RSPO Supply Chain Certification 		The general requirements for the supply chain state that sites must have written procedures and/or work instructions or equivalent to ensure the implementation of all elements of the applicable supply chain model specified. This included complete and up-to-date procedures, records, and reports, as well as the identification of the person(s) responsible. If the site has

Indicator	Evidence	Outcome	Justification
	 Standard and the RSPO Market Communications and Claims Documents. b) effectively implements and maintains the standard requirements within its organisation. 5.3.3. The organisation shall ensure that: a) Internal audits are conducted by personnel knowledgeable in the requirements of this standard; b) Internal auditors do not audit their own work; c) Any non-conformities found during internal audit shall be issued corrective action and actions shall be taken in a timely and appropriate manner. 5.3.4. The results of the internal audit and all actions taken to correct non-conformities shall be subject to management review at least annually. 5.3.5. The organisation shall maintain the internal audit records and reports. 5.13.1 The organisation shall conduct annual management reviews at planned internal audit and participation and planned internal audit and appropriate audit and appropriate audit and an audit and audit and a planned internal audit and appropriate audit and a planned internal audit and appropriate audit and a planned internal audit and appropriate audit and appropriate audit and a planned internal audit and appropriate audit and appropriate audit and appropriate audit and appropriate audit and audit and appropriate audit audit and appropriate audit and appropriate audit and appropriate audit and appropriate audit appropriate audit appropriate audit and appropriate audit appr		outsourced activities, third-parties must also be compliant with the requirements from the standard. Therefore, this indicator was classified as FC.
	Module A – Identity Preserved (IP) A.2 Supply chain requirements A.2.1 The site shall ensure that the RSPO IP oil palm product is kept physically isolated from all other palm oil sources and is uniquely identifiable to a single RSPO certified mill and its certified supply base. A.3 Processing A.3.1 The site shall assure and verify through documented procedures and record keeping that the RSPO certified oil palm product is kept separate from non-certified oil palm products and oil palm products from other certified mills, including during transport and storage to strive for 100% separation.		
	B.2 Supply chain requirements B.2.1 The Segregated approach requires that the RSPO certified oil palm products are kept separate from non-RSPO certified oil palm products at every stage of production, processing, refining, and manufacturing throughout the		

Indicator	Evidence	Outcome	Justification
	supply chain. This model allows mixing of any RSPO IP and/or SG certified oil palm products from various certified sources. Physical certified oil palm products delivered to the end user will be traceable to a list of RSPO certified mills.		
	B.3 Processing B.3.1 The site shall assure and verify through clear procedures and record keeping that the RSPO certified oil palm product is kept segregated from non- certified oil palm products including during transport and storage to strive for 100% separation.		
	 5.5.2 Sites that include outsourcing within the scope of their RSPO Supply Chain certificate shall ensure the following: a) The site has legal ownership of all input material to be included in outsourced processes; b) The site has an agreement or contract covering the outsourced process with each contractor through a signed and enforceable agreement with the contractor. The responsibility is on the site to ensure that certification bodies (CBs) have access to the outsourcing contractor or operation if an audit is deemed necessary. c) The site has a documented control system with explicit procedures for the outsourced process which is communicated to the relevant contractor. d) The site seeking or holding certification shall furthermore ensure (e.g. through contractual arrangements) that independent third parties engaged provide relevant access for duly accredited CBs to their respective operations, systems, and any and all information, when this is announced in advance. 		
B.2.2	RSPO SP v2 Module C – Mass Balance (MB) The Mass Balance system allows for mixing of RSPO and non-RSPO certified oil palm products at any stage in the supply chain provided that overall site quantities are controlled. Certified oil palm products delivered to the end user under the Mass Balance supply chain model will be traceable to a list of RSPO certified mills. C.2 Supply chain requirements	NC	The MB system allows for the mixing of certified and non-certified products. The requirements for this system are set on Module C of the standard. The requirements refer to supply chain requirements, processing, and accounting system, with the objective monitor the quantity of RSPO certified oil palm products bought and the quantity of RSPO certified oil palm products sold.

Indicator	Evidence	Outcome	Justification
	The basis of the supply chain requirements for Mass Balance shall consist of reconciliation between the quantity of RSPO certified oil palm products bought and the quantity of RSPO certified oil palm products sold. This includes control of purchases and sales of RSPO certified oil palm products and its derivatives, which shall be independently verified. There are no requirements for separate storage, transportation, or controls in the production process. C.3 Processing C.3.1 The site shall ensure that the quantity of physical RSPO Mass Balance oil palm product inputs and outputs (volume or weight) at the physical site are monitored. C.3.2 The site shall ensure that the output of RSPO mass balance oil palm product supplied to customers from the physical site does not exceed the input of RSPO certified oil palm products received at the physical site, using either a continuous accounting system (refer to C.4.1) and/or a fixed inventory period (refer to C.4.2). The site shall establish only one accounting system at a time. C.4 Accounting system The site shall identify and establish one of the following accounting systems: C.4.1 Continuous Accounting system C.4.2 Fixed inventory periods		No further requirements controlling the origin of the non-certified products were found. Thus, non- certified products entering the supply chain are not checked against any social and environmental requirements and can be associated with deforestation. Therefore, this indicator was classified as NC.
B.2.3	Same as above.	NC	As discussed above, the non-certified products entering the supply chain are not required to be produced in accordance with relevant legislation in the country of production. Therefore, they can be associated with illegal activity, increasing the risk of non-compliance with the EUDR. This indicator was classified as NC.
B.2.4	Same as above.	NC	As there are no requirements for social and environmental performance of non-certified products entering the supply chain, there are no procedures in place. Thus, this indicator was classified as NC.
C.1.1	RSPO SSR v3 9 NATIONAL INTERPRETATION 9.1 Function of National Interpretation	FC	The scheme provides NIs for the generic P&C standard. There is a document setting the rules for the development of NIs, which have the goal

Indicator F	Evidence	Outcome	Justification
و ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲	 9.1.1 In addition to the RSPO P&C for sustainable palm oil production, National Interpretations (NIs) of the generic indicators and guidance contained within the RSPO P&C could be developed to support the implementation of the RSPO P&C on country level. RSPO encourages all palm oil producing countries to comply with the generic P&C, however if members of a particular country see the need for an NI, a process may be initiated. Until an NI has been developed and formally endorsed by the RSPO BoG, the applicable standard is the generic RSPO P&C. 9.1.2 The NI process should allow raising awareness across all membership categories and stakeholders within each respective country references and legal context. Grower member(s) seeking certification should call upon all membership categories within each respective country to develop an NI. 9.1.3 Upon revision of the RSPO P&C, the NI shall be developed/revised within twelve months of the adoption of the new standard. Until the newly endorsed NI has come into effect, (during the 1-year transition period) the prevalent standard for auditing will be the existing NI, or the latest applicable P&C while the NI is 		of supporting the implementation of the RSPO P&C on country level. The document also sets the rules for the content of the NIs, establishing that indicators can be strengthened and raised from non-critical indicators to critical indicators, but not the other way around. Moreover, NIs provide acceptable performance levels for measurable indicators, do not include additional criteria, and provide specific guidance at least when it is required by the generic P&C standard. This assures that NIs are consistent. By checking the NIs for Indonesia and Malaysia, it was possible to observe that the criteria, indicators, and guidance from the general P&C standard that are relevant for criteria A.1 and A.2 from this framework remain unchanged, with only the occasional addition of specific guidance.
E G G G G G G G G G G G G G G G G G G G	 being developed. 9.2 Development of a National Interpretation (NI) 9.2.5 Content Requirements 9.2.5.1 RSPO endorsement of an NI shall require compliance with the following content requirements: A: Interpreting P&C indicators a. Indicators may be strengthened and raised from non-critical indicators to critical indicators, however, shall not be reduced from critical to non-critical indicators. b. Where measurable indicators have been developed in the RSPO P&C, NIs shall include acceptable performance levels for these indicators. c. NIs shall be confined to the scope of the RSPO Criteria and not include additional criteria; however, additional indicators may be included provided they do not contradict or weaken any part of the standard. B: Interpreting P&C Guidance 		Therefore, this indicator was classified as FC.

Indicator	Evidence	Outcome	Justification
	 where a National Interpretation is explicitly required in the RSPO P&C but may include all guidance. In the guidance sections, NIs shall focus on specific national context and reference existing national or regional best practice guidance where applicable. b. Deletion of any guidance elements should be justified in the process report and it is at the discretion of the Standard SC to accept the proposed deletion. 		
C.2.1	 RSPO P&C 2018 Principle 3 OPTIMISE PRODUCTIVITY, EFFICIENCY, POSITIVE IMPACTS AND RESILIENCE 3.1 There is an implemented management plan for the unit of certification that aims to achieve long-term economic and financial viability. 3.1.1 (C) A business or management plan (minimum three years) is documented that includes, where applicable, a jointly developed business case for Scheme Smallholders. 3.1.2 An annual replanting programme projected for a minimum of five years with yearly review, is available. 3.1.3 The unit of certification holds management reviews at planned intervals appropriate to the scale and nature of the activities undertaken. 3.2 The unit of certification regularly monitors and reviews their economic, social and environmental performance and develops and implements action plans that allow demonstrable continuous improvement in key operations. 3.2.1 (C) The action plan for continuous improvement is implemented, based on consideration of the main social and environmental impacts and opportunities of the unit of certification. 3.2 As part of the monitoring and continuous improvement process, annual reports are submitted to the RSPO Secretariat using the RSPO metrics template. 3.3 Operating procedures are appropriately documented, consistently implemented and monitored. 3.3.1 (C) Standard Operating Procedures (SOPs) for the unit of certification are in place. 3.3 Records of monitoring and any actions taken are maintained and available. 	FC	In Principle 3, the scheme requires that the unit of certification regularly monitors and reviews their economic, social, and environmental performance, and develops and implements action plans that allow demonstrable continuous improvement in key operations. The unit must also have operating procedures, which are documented, implemented, and monitored. Furthermore, all staff, workers, scheme smallholders, outgrowers, and contract workers must be appropriately trained, including in relation to the requirements of the standard. As for the Supply Chain standard, the scheme requires documented procedures to ensure the implementation of the applicable requirements, including up-to-date procedures, records, and reports for demonstrating compliance. This also includes the identification of the roles of the person(s) having responsibility for and authority over the implementation of the tasks critical to the effective implementation of the standard. Therefore, this indicator was classified as FC.

Indicator	Evidence	Outcome	Justification
	3.7 All staff, workers, Scheme Smallholders, outgrowers, and contract workers are appropriately trained.		
	3.7.1 (C) A documented programme that provides training is in place, which is		
	accessible to all staff, workers, Scheme Smallholders and outgrowers, taking into		
	account gender-specific needs, and which covers applicable aspects of the		
	RSPO P&C, in a form they understand, and which includes assessments of training.		
	3.7.2 Records of training are maintained, where appropriate on an individual basis.		
	3.7.3 Appropriate training is provided for personnel carrying out the tasks critical		
	to the effective implementation of the Supply Chain Certification Standard		
	(SCCS). Training is specific and relevant to the task(s) performed.		
	RSPO SP v2		
	5.3. Documented procedures		
	5.3.1. The site shall have written procedures and/or work instructions or		
	equivalent to ensure the implementation of all elements of the applicable supply		
	chain model specified. These shall include at a minimum the following:		
	a) Complete and up-to-date procedures covering the implementation of		
	all the elements of the supply chain model requirements.		
	b) Complete and up-to-date records and reports that demonstrate		
	compliance with the supply chain model requirements.		
	c) identification of the foles of the person(s) having responsibility for and		
	with all applicable requirements. This person(s) shall be able to		
	demonstrate an awareness of the organisation's procedures for the		
	implementation of this standard		
	5.3.2. The site shall have a written procedure to conduct an annual internal audit		
	to determine whether the organisation;		
	a) conforms to the requirements in the RSPO Supply Chain Certification		
	Standard and the RSPO Market Communications and Claims		
	Documents.		
	b) effectively implements and maintains the standard requirements within		
	its organisation.		
	5.3.3. The organisation shall ensure that:		

Indicator	Evidence	Outcome	Justification
	 a) Internal audits are conducted by personnel knowledgeable in the requirements of this standard; b) Internal auditors do not audit their own work; c) Any non-conformities found during internal audit shall be issued corrective action and actions shall be taken in a timely and appropriate manner. 		
	 5.8. Training 5.8.1 The organisation shall have a training plan on RSPO Supply Chain Standards requirements, which is subject to annual review and is supported by records of the training provided to staff. 5.8.2 Appropriate training shall be provided by the organisation for personnel carrying out the tasks critical to the effective implementation of the supply chain certification standard requirements. Training shall be specific and relevant to the task(s) performed. 5.8.3 Training records shall be maintained. 	PC	The Supply Chain standard requires the
C.2.2	 5.9. Record keeping 5.9.1 The organisation shall maintain accurate, complete, up-to-date, and accessible records and reports covering all aspects of these RSPO Supply Chain Certification Standard requirements. 5.9.2 Retention period for all records and reports shall be a minimum of two (2) years and shall comply with legal and regulatory requirements and be able to confirm the certified status of raw materials or products held in stock. 	FC	maintenance of records and reports covering all aspects of the standard. Records must be retained for at least 2 years, which falls short to the 5 years required in this indicator. No equivalent requirement was found for units under the P&C standard. Thus, record-keeping related to the compliance with requirements relevant to the EUDR is not guaranteed at the farm level. Therefore, this indicator was classified as PC.
C.3.1	RSPO_CS_P&C_v3.0 5. CERTIFICATION PROCESS REQUIREMENTS FOR CERTIFICATION AGAINST P&C & RSPO ISH STANDARD 5.8 Decision-making 5.8.2 Certification assessments shall determine compliance or non-compliance with each of the P&C indicators or the RSPO ISH indicators. Non-compliances shall be graded as either minor or major, in accordance with the status of the relevant indicator in the RSPO P&C (i.e. any non-compliance against indicator marked as (C) shall be graded as major non-compliance). For the ISH Standard,	PC	The scheme requires that any non-compliances must be graded as minor or major in accordance with the status of the relevant indicator in the RSPO. Major non-compliances found during surveillance audits must be addressed within 90 days, after which the certificate is suspended and, if not addressed within the timeframe set between CB and RSPO member, withdrawn. The relevant requirements related to criteria A.1 and

Indicator	Evidence	Outcome	Justification
	all non-compliances are considered major.		A.2 of this framework are classified as (C), and therefore not fulfilling them should result in a
	 all non-compliances are considered major. 5.9 Addressing major and minor non-compliances (not applicable for RSPO ISH Standard) 5.9.1 A certificate of compliance with the RSPO P&C shall not be issued while any major non-compliances are outstanding. 5.9.2 Certification submissions to the RSPO IT platform, cannot be based on audits performed more than 12 months before the date of submission. For initial certification where major non-compliances remain outstanding after 12 months, a full reassessment is required. 5.9.3 Minor non-compliances shall be raised to major if they are not addressed by the time of the following audit. 5.9.4 Major non-compliances raised during surveillance and recertification audits shall be closed successfully within 90 days, or the certificate shall be suspended, and subsequently withdrawn if the major non-compliances are not addressed within an agreed timeframe as set between CB and RSPO member, not longer than six (6) months from the last day of the audit. However, for recertification, the suspension cannot be more than the validity of the licence in the RSPO IT platform. a. Recurring major NC on the same indicator (including the supply chain indicators) in successive audits shall be lifted when the NC is successfully addressed. b. Recurring minor NC on the same indicator in successive audits shall be raised to major. Recurring of the noncompliance against this non-critical indicator in the subsequent audits shall be raised as major which results in immediate suspension. 		A.2 of this framework are classified as (C), and therefore not fulfilling them should result in a major non-compliance. Further investigation is needed to understand the procedures to address non-compliances with requirements related to deforestation and compliance with legislation, such as if corrective actions can be proposed, and which cases lead to certificate maintenance or suspension/withdraw. Up to the evidence collected, there is no full guarantee of certificate suspension/withdraw for breaches of these requirements, unless non-compliances are not addressed. Moreover, the scheme does not address comprehensively the aspects relevant to this framework, which means that CHs can have a valid certificate, trade RSPO products and still be associated with deforestation and non- compliance with legislation. This should be taken into account by operators using the scheme as support for due diligence, who must search for more information (audit reports, CBs, suppliers, producers etc) to ascertain if these products comply with the EUDR requirements. Therefore, this indicator was classified as PC.
	an annual surveillance audit or in a recertification audit, immediate suspension from the RSPO certification. However, this requirement excludes NCs raised on		
	the supply chain indicators for the mill.		
C.3.2	RSPO CS P&C v3.0 4. GENERAL REQUIREMENTS FOR CERTIFICATION BODY (CB) 4.3 Conformity with ISO requirements 4.3.1 The CB shall demonstrate that all aspects of its organisation, systems and	FC	In the standard for the certification systems for P&C and ISH, the scheme requires that CBs develop systems and procedures for certification assessments consistent with the guidance in

Indicator	Evidence	Outcome	Justification
	procedures for conducting certification are in accordance with this Certification Systems and compliant with the relevant requirements of the AB. 4.3.2 The CB shall develop systems and procedures for certification assessments consistent with the guidance in ISO/IEC 17021-1 Conformity Assessment – Requirements for Bodies Providing Audit and Certification of Management Systems, with modifications to take into account the specific requirements set out in this document. Where there is any inconsistency or conflict between the RSPO Certification Systems and any relevant ISO requirements, the RSPO Certification Systems requirements shall always take precedence.		ISO/IEC 17021-1, while also complying with additional requirements from the standard. The scheme sets a series of requirements for managing impartiality and conflict of interests (e.g., declaration and reporting of possible conflict of interest, independence of employment, documented procedures), and also establishes the competence requirements for auditors and lead auditors (e.g., degree qualifications and specific training).
	 4.6.1 Any person or entity engaged by the CB or the CB itself shall: a. Declare any and all interests that may potentially affect the certification process and/or that could possibly constitute a conflict of interest, in advance of engaging in an assessment, verification or certification process against the requirements of any RSPO Certification Standards. b. Report any circumstances or pressure that may influence its independence or confidentiality immediately to the executive management of the CB. The executive management of the CB shall notify the RSPO and the AB of any such report and ensure that any such report is included in the certification report of the certification process and in the file of the client. 4.6.2 The CB shall not include in their audit team any individual employed by a company that is a current RSPO client to them, or currently working with the palm oil trade/commercial association in which the client is a member of the association. 4.6.3 The CB shall retain records of any actual and potential conflicts of interest from its auditors. 4.6.6 The CB and members of its assessment teams shall maintain independence from the organisation being assessed for a minimum of three (3) years to be considered not to have a conflict of interest. 4.6.7 The CB shall not use the same lead auditor as audit team leader for more than two (2) consecutive audits (counting all types of audits, i.e. certification audits and surveillance audits) of a management unit, including if the lead auditor changes CB. 		In the standard for the certification systems for supply chain, the scheme requires that CBs demonstrate that all aspects of their organization, systems, and procedures conform to the relevant provisions of the most recent revision of ISO/IEC 17065, therefore covering the topics from this indicator. It also defines additional requirements for managing conflict of interests and competence of auditors. Therefore, this indicator was classified as FC.

4.8 Resource requirements

4.8.2 The CB shall have documented processes for

a. Determining the competence criteria for personnel involved in the audits and other certification activities;

b. Determining the initial competence evaluation and ongoing monitoring

of competence and performance of all personnel involved in the certification activities.

4.8.6 All auditors shall have the following qualifications:

a. Possess a bachelor's degree or tertiary education in related disciplines, such as agriculture, environmental science or social sciences, etc;

b. At least three (3) years of field experience in the palm oil sector, health and safety, or environmental management. These include experience in HCV and HCS assessment, social auditing or involvement in human rights activities;

c. Successfully completed an RSPO endorsed P&C lead auditor course;

d. Successfully completed the 5-day lead auditor course for ISO 9001 or ISO 14001 or ISO 45001;

e. Demonstrable understanding of the latest version of RSPO Certification Systems;

f. For auditors auditing the ISH standard, auditors shall additionally be trained on the ISH standard either by the endorsed trainer or RSPO;

g. For auditors verifying compliance with NPP procedures, auditors shall additionally be trained in the assessment of compliance with FPIC, HCV and HCS requirements in the context of RSPO NPP procedure.

h. A supervised (by a qualified auditor/lead auditor) period of training in practical audit against the RSPO P&C, with a minimum of 10 days of audit experience in at least two (2) audits.

4.8.7 The RSPO lead auditor is a qualified RSPO auditor who shall have, as a minimum:

a. At least five (5) years of field experience in the palm oil sector, health and safety, or environmental management. These include experience in HCV and HCS assessment, social auditing or involvement in human rights activities;

Indicator	Evidence	Outcome	Justification
	 b. A supervised (by a qualified lead auditor) period of training in practical audits against the RSPO P&C and/or RSPO ISH standard, with a minimum of 15 days audit experience in at least three (3) audits; c. Successfully completed a refresher course for RSPO endorsed P&C lead auditor course every three (3) years after the initial qualification as lead auditor. 		
	 <u>RSPO CS SC v2</u> Accreditation Requirements: Model for Approval and Monitoring of Third Party Certification Bodies A.4. Accreditation requirements for certification bodies A.4.1 CBs are required to demonstrate that all aspects of their organisation, systems, and procedures for conducting certification against the intent and requirements of the RSPO Supply Chain Certification Systems are included in documented management systems, and conform to the provisions of RSPO's specific requirements detailed in section 5 of this document. 4.4.2 CBs are required to demonstrate that all aspects of their organisation, systems, and procedures for conducting certification against the intent and requirements of the RSPO Supply Chain Certification Systems conform to the relevant provisions of the most recent revision of ISO/IEC 17065. 4.4.3 The CB shall comply with the accreditation body's requirements pertaining to accreditation decisions. 		
	 5. Certification Process Requirements of the RSPO Supply Chain Certification Systems 5.1. Specific competencies of audit teams 5.1.1 The accredited CB shall implement all provisions, including legal arrangements, to ensure that any and all persons, subcontractors or other entities (e.g. permanently employed and freelance auditors, experts, consultants, etc.) engaged on its behalf in auditing against the requirements of the RSPO Supply Chain Certification Standard, are knowledgeable about the applicable processes, procedures, and documents, and comply with the requirements of the RSPO Supply Chain Certification Systems as a whole. 5.1.3 All of the audit team members auditing the Supply Chain Standard shall be of a lead auditor status. The lead auditors shall demonstrate, the following: 		

Indicator	Evidence	Outcome	Justification
	 a) Possess a minimum of three (3) years field working experience in similar supply chains, or equivalent related to and as necessary for the certification process. Field working experience refers to direct working experience or practical experience in auditing the palm oil sector; b) Successful completion of internationally recognised ISO 9001 lead auditor course; c) Successful completion of an RSPO-endorsed Supply Chain Lead Auditor's course and a refresher course every three (3) years; d) Possess language skills suitable for verbal and written communication with the client and the client's relevant stakeholder groups. This can be supplemented by a translator; e) Successful completion of the trainee lead auditor requirements in 5.1.4 and evaluated as a qualified lead auditor by the CB's management. 		
	5.6. Conflict of interest 5.6.1 Procedures for identifying and managing conflicts of interest shall include provision for a specific independent committee, set up by the CB. The independent committee shall consist of at least three (3) external members, and shall meet at least annually with managers of the CB to formally review the CB's performance in this respect. (More requirements on this topic from 5.6.2 to 5.6.7)		
C.3.3	 <u>RSPO CS P&C v3.0</u> 5. CERTIFICATION PROCESS REQUIREMENTS FOR CERTIFICATION AGAINST P&C & RSPO ISH STANDARD 5.11 Certificates 5.11.3 The maximum period of validity of the RSPO P&C certificate is five (5) years. The CB shall undertake annual surveillance audits during the certificate's validity, and a full recertification audit of compliance shall take place before the end of the five-year period. 5.13 Annual surveillance audits 5.13.1 The CB shall undertake the first annual surveillance audits within 12 months of the certificate issue date, but not earlier than eight (8) months after the certificate issue date. The subsequent annual surveillance audits shall be undertaken within 12 months of the licence expiration dates, but not earlier than 	FC	The scheme issues certificates with a 5 years validity. After certification, annual surveillance audits are performed by CBs. The first surveillance audit must be conducted within 12 months of the certificate issue date, but not earlier than eight (8) months after the certificate issue date. The subsequent annual surveillance audits must be conducted within twelve (12) months of the licence expiration dates, but not earlier than eight (8) months after the expiration dates. Therefore, this indicator was classified as FC.

Indicator	Evidence	Outcome	Justification
	 eight (8) months after the expiration date. 5.13.3 The surveillance audit shall review whether the documented policies and procedures of the certified operation remain sufficient and adequately implemented to meet the intent and requirements of the RSPO certification standards. 5.13.4 Surveillance audits shall include evidence gathering to verify that outstanding corrective action has been effectively implemented, by demonstrably addressing the root cause of the non-compliance and avoiding recurrence by effective preventive action. 5.13.5 Surveillance audits shall incorporate site visits to assess continued compliance to the RSPO standards, as well as specific evaluation in response to any external complaints received or relevant stakeholder comments. The surveillance audit shall be planned to allow for sufficient time to address these requirements. 		
	 <u>RSPO_CS_SC_v2</u> 5. Certification Process Requirements of the RSPO Supply Chain Certification Systems 5.3.26 The validity of Supply Chain Certificate shall be five (5) years with annual surveillance. The certificate shall only be valid upon activation of the supply chain licence in the RSPO IT platform Surveillance / Recertification audits. 5.3.27 The CB shall undertake the first annual surveillance audit within twelve (12) months of the certificate issue date, but not earlier than eight (8) months after the certificate issue date. The subsequent annual surveillance audits shall be undertaken within twelve (12) months of the licence expiration dates, but not earlier than eight (8) months after the expiration date. 5.3.29 The surveillance audit shall review whether the organisational systems, the management systems and the operational systems, including any documented policies and procedures of the organisation holding certification, are sufficient and adequately implemented to meet the intent and requirements of the RSPO Supply Chain Certification Standard. 		
C.3.4	<u>RSPO CS P&C v3.0</u> 5. CERTIFICATION PROCESS REQUIREMENTS FOR CERTIFICATION AGAINST P&C & RSPO ISH STANDARD Procedure for the initial certification audit process	FC	For conformity assessment against the P&C and the ISH standards, the scheme requires that objective evidence of conformity with applicable requirements must be collected through
			requiremente must be concered through

Indicator	Evidence	Outcome	Justification
	5.4.1 The CB shall define procedures for the certification audit process. The procedures shall require that the certification audits, and the subsequent surveillance audits, use appropriate sampling to collect objective evidence through: documentation review, field checks and interviews with internal and external stakeholders.		documentation review, field checks and interview with internal and external stakeholders. Procedures to conduct stakeholder consultation are detailed in Annex 5. Procedures for sampling sites for audits are detailed in item 5.7. For supply chain conformity assessment the scheme
	Stakeholder consultation 5.6.1 For initial certification and recertification audits for P&C and audit at Eligibility, MS A, Initial (MS B) and recertification audits for RSPO ISH Standard, the CB's procedures shall include a requirement to make a public announcement on the RSPO website of the audit at least one (1) month prior to its start. The announcement shall be available in English and the national language. The CB may use the template as provided in Annex 5. 5.6.2 The announcement template shall include the following minimum information: (<i>items i to xiv</i>) xv. How the stakeholders can submit their comments.		requires that the CB have access to all relevant documents, field sites and personnel. The scheme requires the review of management documentation, records, and verify compliance of outsourced activities. In the case of multi-site supply chain certification, the scheme provides the sampling strategy. Therefore, this indicator was classified as FC.
	5.7 Sampling for RSPO P&C certification 5.7.1 The CB's shall establish a procedure for sampling methodology of all audits, where there are more than four (4) estates or scheme smallholders. However, for units that have less than four (4) estates, all estates shall be audited. 5.7.2 Sampling of estates and scheme smallholders shall be carried out separately. The CB shall ensure that all estates shall be audited within the certification cycle. 5.7.3 Where sampling is required for a certification assessment, the sampling design shall include all mills and be based on a minimum sample of x estates, where x = (\sqrt{y}) x (z), where y is the number of estates and where z is the multiplier defined by the risk assessment.		
	 <u>RSPO CS SC v2</u> 5. Certification Process Requirements of the RSPO Supply Chain Certification Systems 5.3.8 The audit shall start with an opening meeting during which the CB shall inform the certification applicant about the certification process, agree logistics for 		

Indicator	Evidence	Outcome	Justification
	the audit, confirm access to all relevant documents, field sites and personnel, explain confidentiality and conflicts of interest, and agree on the timing of the closing meeting. 5.3.9 The CB shall review the management documentation of the applicant to ensure that all elements fully meet the requirements of the RSPO Supply Chain Certification Standard. The certification body shall clarify any issues or areas of concern with the organisation seeking or holding certification. 5.3.10 The certification audit shall review whether the organisational systems, the management systems and the operational systems, including any documented policies and procedures of the organisation seeking or holding certification, are sufficient and adequately implemented to meet the intent and requirements of the RSPO Supply Chain Certification Standard. 5.3.11 The CB shall verify compliance of all outsourced activities (as specified in the RSPO SCC Standard) conducted by subcontractors engaged by an organisation seeking or holding certification with the intent and requirements of the RSPO Supply Chain Certification Standard. 5.3.12 The certification audit shall review pertinent RSPO Supply Chain records relating to the receipt, processing, and supply of certified oil palm products. The CB shall define its sampling method to verify the records of transaction since last audit.		
	 Annex 2: Multi-site Certification A.2.4 Sample audit formula Certification audit: square root of the total number of participating sites, rounded up to the next whole number, plus Central Office. Surveillance audit. Square root of the total number of participating sites, multiplied by a coefficient of 0.6 rounded up to the next whole number, plus Central Office. 		
C.3.5	RSPOISH20193.2 The Internal Control System Requirements for Smallholder GroupsA1 The group demonstrates that they are legally formed.A1.1 E The group has appointed a group manager.A1.2 E The group manager has evidence of legal identity.A1.3 E The group has membership requirements.A1.4 E All members have signed and acknowledged membership	FC	The scheme allows for group certification of both producers and supply chain. Under the ISH standard, the scheme sets a series of requirements for group management, including the appointment of a group manager, the plan and implementation of an ICS, training plan covering applicable requirements etc. The

Indicator	Evidence	Outcome	Justification
	requirements. A2 The group manager is responsible for managing the group for certification. A2.1 E The group manager has planned for the implementation of the ICS. A2.2 E The group manager demonstrates understanding of the RSPO ISH Standard, group certification and related topics and has sufficient resources to manage the group. A2.3 E A group annual training plan is available covering the RSPO ISH Standard, group management (which includes group objectives, structure, relevant procedures and the certification process) and other topics as outlined in the ISH Standard.		standard for group certification of FFB production offers another option for group certification. In Section 2, it lists the system requirements for group management. This section details the requirements and responsibilities for group management and the features of the ICS. The ICS includes the documentation of policies and procedures for operational management, as well as an internal audit programme of group members, providing also the minimum sample size for internal audits.
	 B1 The group ICS contains documented policies and procedures for operational management. B1.1 E A group ICS is available for operational management including procedures of expulsion and sanctions for members who fail to comply, and a procedure to conduct internal audits. B1.2 E Basic information, farm information, production data, legal documentation of group members and signed Smallholder Declarations are available to the group manager. 		The scheme also allows for group supply chain certification. The supply chain standard provides all the requirements for this type of certification in Annex 3, detailing the rules for group management and group manager, responsibilities, operations, procedures, training, record keeping and internal audits. Therefore, this indicator was classified as FC.
	RSPO GR FFB v3 SECTION 2. SYSTEM REQUIREMENTS FOR GROUP MANAGEMENT 2.1 ELEMENT 1 (E1): GROUP ENTITY AND GROUP MANAGEMENT REQUIREMENTS E1.1 The Group Entity shall be legally formed E1.2 The Group shall be managed by a Group Manager		
	2.2 ELEMENT 2 (E2): INTERNAL CONTROL SYSTEM – POLICIES AND MANAGEMENT E.2.1 The Group Internal Control System shall contain documented policies and procedures for operational management		
	2.3 ELEMENT 3 (E3): INTERNAL CONTROL SYSTEM – OPERATIONS E3.1 The Group Internal Control System shall develop and implement an internal		

Indicator	Evidence	Outcome	Justification
	audit programme of Group members E3.2 The Group Internal Control System shall include a system in place to enable the trading of RSPO certified Fresh Fruit Bunches (FFB) produced from the Group		
	 <u>RSPO_SP_v2</u> Annex 3 - Supply Chain Group Certification Scheme 2. Group Certification Membership requirements 3. Group entity responsibilities 4. Group Manager responsibilities (e.g., assure group compliance with all applicable requirements, have documents systems with policies and procedures, prepare and maintain group system, structures and responsibilities of employees, demonstrate sufficient resources to enable effective and impartial technical and 		
	administrative management of the group) 6. Group management procedures (e.g. providing information and training, carrying out an initial audit of potential group members, carrying out annual internal audit of all group members to ensure continuing compliance with the certification requirements) 7. Training		
	 8. Record keeping 9. Internal audits 9.1. The Group Manager shall conduct at least annual internal audits of each participating site to ensure compliance with the group scheme of Supply Chain Certification Standard requirements. 9.2. Any non-conformities found during internal audit shall be issued corrective action and actions shall be taken in a timely and appropriate manner 		
	9.3. The results of the internal audits and all actions taken to correct non- conformities shall be available to the CB upon request.		
C.4.1	All standards and supporting documents are publicly available at: <u>https://rspo.org/resources/</u>	FC	All standards and supporting documents are publicly available online. Thus, this indicator was classified as FC.
	RESOURCES Search for a specific resource or browse the main directory.		
	Documents can be found through a search bar, and are also organized in		

Indicator	Evidence	Outcome	Justification
	different folders of the directory (e.g., Certification, Complaints, Impact report, Membership, RSPO governance, RSPO reports, Standards). By clicking on Standards, it is possible to find all relevant standards from the scheme organized in folders by theme (e.g., 2019 RSPO Independent Smallholder (ISH) Standard, Code of Conduct, Group Certification, RSPO Principles and Criteria 2018, RSPO Supply Chain Certification Standard).		
C.4.2	CERTIFIED COMPANIES (PRINCIPLES AND CRITERIA): https://rspo.org/search-members/certified-growers/ Certified growers are producers of palm oil whose operations have been certified against the RSPO Principles and Criteria. Resources available: search bar, filters (Country, CB, assessment type, status, start date, status, and SC model), and download CERTIFIED COMPANIES (Supply Chain): <u>https://rspo.org/search- members/supply-chain-certificate-holders/</u> Certified companies whose operations have been certified against the RSPO Supply Chain Certification Standard. Resources available: search bar, filters (Country, CB, status, year, and SC model), and download	FC	The list of producer and supply chain certificates are provided in two separate webpages. The information on each certificate includes their current status. Further investigation is needed to assess how often the list is updated. But overall, the scheme meets the indicator, which was classified as FC.
C.4.3	 <u>RSPO CS P&C v3.0</u> Publicly available information 5.15.1 The following documents shall be publicly available on the websites of the CB and/or the RSPO: a. A summary report of a certification audit (Initial Certification, Surveillance or Recertification) shall include information as specified in Annex 3. The summary report shall exclude any information that is commercially confidential or whose disclosure would result in negative environmental or social outcomes. The report is made available on the RSPO's website in English, together with the certificate. b. CB's procedures for complaints and grievances, including resolution 	PC	The standard for certification systems for P&C and ISH requires that a summary report of certification audits is made publicly available on the websites of the CB and/or the RSPO. The content of this summary report is defined in Annex 3, which includes the list of all NCs raised and for major NCs must include the root cause, corrective actions, and closure. In the list of CHs, it is possible to find the audit reports in the files for download.

Indicator	Evidence	Outcome	Justification
	mechanisms, on the CB's website. c. The registry of all certified organisations, which shall include details of the scope of each certificate, on the RSPO and CB's websites. d. The public notifications and NPP reports on the RSPO's website.		While the standard for certification systems for supply chain certification defines the content of the audit report, it does not require that a summary is made publicly available. Therefore, this indicator was classified as PC.
	ANNEX 3 : AUDIT REPORT		
	A.3.1 The audit report shall include the following information:		
	T. Results/assessment findings shall cover compliance to each indicator (refer to audit checklist). Non compliances raised refer to specific		
	indicators as listed under the P&C or under the specific NI.		
	g. List of all NCs raised and for major NCs shall include the root cause,		
	corrective actions and closure of the NCs;		
	h. List of previous year's audit findings, including the corrective actions		
	and closure of the NCS;		
	 <u>RSPO_CS_SC_v2</u> 5.5. Public availability of documentation 5.5.1 The following documents shall be made publicly available by the CB and/or the RSPO Secretariat upon request (and made available on the applicable website), as indicated: a. RSPO Supply Chain Certificate; b. For Independent mill, the RSPO audit report; c. Procedures of the Certification Body for complaints and grievances and 		
	appeals, including resolution mechanisms (CB);		
	d. The list of certified organisations, which includes details of the scope of each certificate, i.e. which sites and/or processes are approved (RSPO Secretariat).		
	Annex 1: Supply Chain Audit Report		
	A.1.1 Content requirements The audit report may be a compilation of several documents. The CB shall		
	include the following minimum content requirements when preparing a supply chain certification report, which shall not be made public, with the exception of independent mill audit report:		
	nucependent min audit report.		

Indicator	Evidence	Outcome	Justification
	actions, and the date of closure of NCs.		
	CERTIFIED COMPANIES (PRINCIPLES AND CRITERIA): https://rspo.org/search-members/certified-growers/		
	Certified growers are producers of palm oil whose operations have been certified against the RSPO Principles and Criteria. Resources available: search bar, filters (Country, CB, assessment type, status,		
	start date, status, and SC model), and download. Audit report in the list of files.		
C.4.4	 <u>RSPO_CAP_v3</u> 3. GENERAL ROLE OF THE RSPO SECRETARIAT IN RELATION TO COMPLAINTS & APPEALS 3.1. The RSPO Secretariat is responsible for coordination, administration, and communications of all aspects of the RSPO scheme. With respect to the RSPO Complaints and Appeals Procedure, the Secretariat's responsibilities are to: 3.1.1. Receive, acknowledge, and initiate the procedures set out in this document upon receipt of a complaint or appeal; 3.1.2. Facilitate the process of dealing with complaints according to the procedures set out in this document including facilitating the appointment of Complaints Panel Members, Appeals Panel Members investigators and other such experts required or requested by the Complaints Panel; 3.1.3. Monitor progress towards complaint resolution according to procedures set out in this document; 3.1.4. Ensure timely communications with respect to the status of a complaint or appeal; 3.1.5. Regularly review and evaluate the efficacy of the RSPO Complaints and Appeals Procedure; 3.1.6. To facilitate interpretation and the translation services if required; and 3.1.7. To keep proper records of sanctions imposed on members in order for it to serve as precedent to other complaints. 	PC	No evidence was found that the scheme has a corruption policy, or similar. While there are codes of conduct available for members and for supply chain associated, they do not address corruption, nor cover the system comprehensively. The scheme has a procedure in place to handle complaints and appeals, under the responsibility of the RSPO Secretariat. Therefore, this indicator was classified as PC.
	4. GROUNDS FOR COMPLAINT		

Indicator	Evidence	Outcome	Justification
	provisions of one or more of the provisions of the RSPO Key documents namely:		
	4.2.1. RSPO Statutes and By-laws;		
	4.2.2. RSPO Principles & Criteria for Sustainable Palm Oil Production		
	(P&C);		
	4.2.3. RSPO Supply Chain Certification Standard (S&C);		
	4.2.4. RSPO endorsed National Interpretation of the P&C (where		
	applicable);		
	4.2.5. RSPO Code of Conduct;		
	4.2.6. RSPO New Plantings Procedure;		
	4.2.7. RSPO Certification Systems;		
	4.2.8. RSPO Rules established for Trade and Traceability and for		
	Communication and Claims; and		
	4.2.9. any other documents including standards that the Board of		
	Governors of RSPO may from time to time direct be added to this list.		

Annex 8 – Full application of the assessment framework to Round Table on Responsible Soy Association (RTRS)

Indicator	Evidence	Outcome	Justification
A.1.1	 Evidence <u>RTRS RSP v4.0</u> Principle 4 Environmental Responsibility 4.4 Expansion of soy cultivation is responsible. 4.4.1 The following areas have not been cleared or converted from May 2009 onwards: 4.4.1.a Where RTRS maps are available: All areas included in Category 1 of the maps. 4.4.1.b Where RTRS maps are not available the following areas: a) native forests; b) riparian vegetation; c) natural wetlands; d) steep slopes; e) areas designated by law to serve the purpose of native conservation and/or cultural and social protection. 4.4.1.c Where there is an unresolved land use claim by traditional land users under litigation, without any agreement from both parties. Guidance 4.4.1 If conversion/clearing takes place due to a legal requirement (at national or local level) or verifiable emergency (such as firewalle), this indicater does not available 	Outcome PC	Justification In Principle 4 (Environmental Responsibility), criterion 4.4 requires that expansion of soy cultivation is responsible. This is translated into two indicators. In 4.4.1, the scheme forbids the conversion after 2009 of areas from Category 1 from the RTRS maps (meaning areas critical for biodiversity where stakeholders agree there should be no conversion of native vegetation into responsible soy production), or, when these maps are not available, the conversion of native forests, riparian vegetation, natural wetlands, steep slopes and areas legally protected. In 4.1.2, the scheme forbids the conversion after 2016 of any natural land (meaning land with native vegetation, natural wetlands, grasslands, pavanable, projected and and standard)
	 Legal obligations may include - but not be limited to - the need for roads, transmission lines, etc. Under certain circumstances, a minimal level of conversion may occur if there is a restoration plan in place. Please refer to Annex 8 and the definition of "minimal level of conversion" in the glossary, in accordance with the Accountability Framework Initiative. Guidance 4.4.1.c Traditional land users will provide reasonable proof that they have been exercising use or access rights on the area of the property over the last 10 years prior to May 2009. 4.4.2 After 3rd June 2016, no conversion is allowed in any natural land (see Glossary), steep slopes and in areas designated by law to serve the purpose of native conservation and/or cultural and social protection. 		However, the guidance for 4.4.1 indicates that conversion can occur in two scenarios: a) due to a legal obligation of verifiable emergency (e.g., construction of roads, transmission lines, firewalls), and b) if it is considered a minimal level of conversion. The latter is defined as "a small amount of deforestation or conversion that is negligible in the context of a given site because of its small area and because it does not significantly affect the conservation values of natural ecosystems or the services and values they provide to people.", with guidelines defined in Annex 8.

Indicator	Evidence	Outcome	Justification
	Annex 3 Glossary of Terms		
	Natural Lands: All land with natural, native vegetation, including, but not limited		The minimal l
	to, native forests (according to RTRS definition), riparian vegetation, natural		after the co

Minimal level (of deforestation or conversion): Groups of people and families legitimately living or working on or near to the property to be certified, or between properties in case of multi-site or group certification, and influenced by or influencing the activities of the property. A small amount of deforestation or conversion that is negligible in the context of a given site because of its small area and because it does not significantly affect the conservation values of natural ecosystems or the services and values they provide to people.

wetlands, grasslands, savannahs, prairies, and woodlands.

- Minimal levels of deforestation or conversion at the site scale do not necessarily violate no-deforestation or no-conversion commitments. However, this provision does not sanction substantial conversion of forests or natural ecosystems to enlarge commodity production areas.
- To be consistent with no-deforestation or no-conversion commitments, minimal levels must generally meet the following conditions:

- Not exceed cumulative thresholds that are small both in absolute terms (e.g., no more than a few hectares) and relative to the area in question (e.g., no more than a small proportion of the site). Levels of conversion or deforestation should be assessed cumulatively over space and time; multiple small instances of conversion may lead to a producer being considered non-compliant with commitments.

- Not result in the loss of important biological, social, or cultural values, for instance as defined by the High Conservation Value framework.

- If planned in advance, be specified as a result of an integrated and participatory land-use planning process that follows good practices for achieving positive environmental and social outcomes.

- If not planned in advance (e.g., if resulting from unauthorized encroachment or other unforeseen activities), are addressed through effective actions to prevent non-repetition and to remediate harms and

al levels of deforestation or conversion after the corresponding cut-off date cannot exceed 5% of the total size of the farm, or 20 ha (whichever is stricter). In these cases, farmers must have in place a restoration plan. This conversion can be conducted for infrastructure purposes, or, in the case of producers that are not yet certified, for agricultural production, as long as conversion may not have taken place in a Category 1 area. Therefore, there are windows for deforestation to occur for soybean production in farms under the scheme, and these windows must be taken into consideration by operators conducting due diligence sourcing soya from RTRS-certified farms. This indicator was classified as PC.

Indicator	Evidence	Outcome	Justification
	restore lost conservation values to the extent necessary. Even when minimal levels of deforestation or conversion may not be cause for exclusion from ethical supply chains, they may still require remediation (including restoration/compensation) to the extent that they result in negative impacts to conservation values or human rights.		
	 Annex 4 - RTRS Guidelines for Responsible Soy Expansion Category 1 Areas (red areas) = areas critical for biodiversity (hotspots), where stakeholders agree there should be no conversion of native vegetation into responsible soy production. Category 2 Areas (yellow areas) = areas with high importance for biodiversity where, according to version 2 of the standard, expansion of soy is only carried out after a HCVA assessment that identifies areas for conservation and areas where expansion may occur. For Version 3 of the standard, conversion without an HCVA assessment is permitted until June 2016. After June 2016, no conversion of natural lands is allowed. Category 3 Areas (dark green areas) = areas where existing legislation is adequate for controlling responsible expansion until June 2016 (usually areas highly important for agriculture and not important for conservation). After June 2016, no conversion of natural lands is permitted. Category 4 Areas (light green areas) = areas already used for agricultural purposes and where there is no remaining native vegetation except for legal reserves and, hence, no further expansion is made. After June 2016, no conversion of natural land is permitted. 		
	Category 1: Not certifiable, unless producers can demonstrate in any other reliable way that the opening occurred prior to May 2009 (*). Categories 2, 3 and 4: Land legally converted until June 2016 (**) is certifiable. After June 2016, no conversion of natural lands is permitted.		

Annex 8 – Minimal Level of Conversion Allowed

In cases where there were minimal levels of deforestation or conversion after the corresponding cut-off dates and they account for 5% of the total size of the farm or less, but no more than 20 hectares (whichever is stricter), the producer shall have in place a restoration plan effectively implemented at the time of the audit:

Indicator	Evidence	Outcome	Justification
	 a) In case of conversion for infrastructure purposes, the producer shall restore the same number of hectares as converted in areas with environmental gains (e.g., in biological corridors). If the mentioned areas are not available for restoration, the producer must restore 20% more hectares than what was originally converted, in a suitable area. b) For producers that are not yet certified, conversion may occur for agricultural production after the cut-off dates if the producer restores the same number of hectares as converted in areas with environmental gains (e.g., in biological corridors). If the aforementioned areas are not available for restoration, the producer must restore 20% more hectares than what was originally converted, in a suitable area. This conversion may not have taken place in a Category 1 area (red area) as featured on RTRS maps. This minimal level of deforestation/conversion shall be assessed cumulatively over time. This minimal level does not apply if the local law is stricter. Furthermore, restoration must take place in the same RTRS-certified production area. 		
A.1.2	RTRS RSP v4.0ForestLand spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or other land use. Forest includes native forests and tree plantations. For the purpose of implementing no-deforestation supply chain commitments, the focus is on preventing the conversion of natural forests. Quantitative thresholds (e.g., for tree height or canopy cover) established in legitimate national or sub-national forest definitions may take precedence over the generic thresholds in this definition.Conversion	PC	The scheme defines the three terms in the glossary. First of all, the definition of forest is the same adopted by the EUDR, noting that quantitative thresholds established in national or sub-national forest definitions may take precedence over the generic thresholds. The scheme highlights that forest includes native forests and tree plantations but that for the purpose of implementing no-deforestation supply chain commitments, the focus is on preventing the conversion of natural forests.
	 Change of a natural ecosystem to another land use or profound change in a natural ecosystem's species composition, structure, or function. Deforestation is one form of conversion (conversion of natural forests). Conversion includes severe degradation or the introduction of management practices that result in a substantial and sustained change 		deforestation, which is defined as the loss of natural forest as a result of conversion to agriculture, among other types of conversion. Thus, there is a gap, as the EUDR does not address only the conversion of natural forests.

Indicator	Evidence	Outcome	Justification
Indicator	 Evidence in the ecosystem's former species composition, structure, or function. Change to natural ecosystems that meets this definition is considered to be conversion regardless of whether or not it is legal. Deforestation Loss of natural forest as a result of: i) conversion to agriculture or other nonforest land use; ii) conversion to a tree plantation; or iii) severe and sustained degradation. Severe degradation (scenario iii in the definition) constitutes deforestation even if the land is not subsequently used for a non-forest land use. Loss of natural forest that meets this definition is considered to be deforestation regardless of whether or not it is legal. Degradation Changes within a natural ecosystem that significantly and negatively affect its species composition, structure, and/or function and reduce the ecosystem's capacity to supply products, support biodiversity, and/or deliver ecosystem 	Outcome	Justification Furthermore, the conversion of natural forests into a tree plantation is also under the definition of deforestation, while this falls in the definition of forest degradation in the EUDR. In turn, degradation has a broader definition. In terms of compliance with the EUDR, this mismatch would not have negative practical implications, as the conversion of natural forests into plantations would still be forbidden. Note that the requirements in the previous indicator are applied to the term conversion, but the glossary specifies that deforestation is one form of conversion. Because only natural forests are included in the definition of deforestation, this indicator was
	 capacity to supply products, support biodiversity, and/or deliver ecosystem services. Degradation may be considered conversion if it: a) is large-scale and progressive or enduring. b) alters ecosystem composition, structure, and function to the extent that regeneration to a previous state is unlikely; or c) leads to a change in land use (e.g., to agriculture or other use that is not 		definition of deforestation, this indicator was classified as PC.
13	a natural forest or another natural ecosystem).	FC	There are two cut-off dates for deforestation in
	See criterion 4.4 Expansion of soy cultivation is responsible, in A.1.1.	-	the scheme. The first is related to the conversion of areas from Category 1 from the RTRS maps (meaning areas critical for biodiversity where stakeholders agree there should be no conversion of native vegetation into responsible soy production), or, when these maps are not available, the conversion of native forests, riparian vegetation, natural wetlands, steep slopes and areas legally protected. This

Indicator	Evidence	Outcome	Justification
			conversion is not allowed after May 2009, or else the land is not certifiable.
			The second date is related to the conversion of any natural land, steep slopes and in areas designated by law to serve the purpose of native conservation and/or cultural and social protection. This conversion is not allowed after June 3 rd , 2016. Both dates are previous from the one established in the EUDR, and therefore this indicator was classified as FC.
A.2.1	RTRS RSP v4.0 Principle 1 Legal Compliance and Good Business Practices 1.1 There is awareness of, and compliance with, all applicable local and national legislation. 1.1.1 Awareness of responsibilities, according to applicable laws can be demonstrated. 1.1.2 Applicable laws are being complied with. Guidance 1.1.1 – 1.1.2 Producers need to have access to information, which enables them to know what the law requires them to do. Examples include having a register of laws, or access to relevant advice on legislation. Legal compliance should be verified through: • checking publicly available data on compliance where available; • interviews with staff and stakeholders; • field observations. The National Interpretation of the corresponding country will provide the scope of verification of the applicable law that producers need to demonstrate compliance with during the audit.	PC	The standard for producers requires awareness and compliance with applicable local and national legislation. In turn, applicable legislation is set on national interpretations. This requirement is further reinforced in the standard setting the certification procedure for responsible soy production. However, the CoC standard has no requirements related to compliance with legislation. Thus, other actors handling RTRS- certified products are not checked by the scheme for compliance with legislation, and the final products can be associated with illegal activities along the supply chain. Therefore, this indicator was classified as PC.
	<u>RTRS_ACP/RSP_v4.3</u> A2. Assessment Requirements A 2.1. Assessment teams and auditors		

A 2.1.1. Teams for main assessments and annual surveillance assessments shall

Indicator	Evidence	Outcome	Justification
	be composed of a lead auditor and sufficient team members. Collectively the team members shall be able to cover all of the elements of the RTRS standard. Including, but not limited to: A 2.1.1.1. Legal compliance including all areas covered by the applicable RTRS field standard (e.g., legal experience related to land rights or conservation of native vegetation);		
A.2.2	 <u>RTRS_RSP_v4.0</u> Principle 1 Legal Compliance and Good Business Practices 1.2 Legal use rights to the land are clearly defined and demonstrable. Note: Land use rights of traditional land users are considered in Criterion 3.2, which should be cross-referenced with this Criterion. 1.2.1 There is documented evidence of rights to use the land (e.g. ownership document, rental agreement, court order, etc.). Principle 2 Responsible Labour Conditions 2.1 Child labour, forced labour, discrimination and harassment are not engaged in or supported. 2.2 Workers, directly and indirectly employed on the farm, and sharecroppers, are adequately informed and trained for their tasks and are aware of their rights and duties. 2.3 A safe and healthy workplace is provided for all workers. 2.4 There is freedom of association and the right to collective bargaining for all workers. 	PC	In Principle 1, there is a requirement for demonstrated land use right. Principle 2 establishes requirements related to labours conditions, with a series of indicators mentioning compliance with local laws and ILO conventions. Principle 3 establishes requirements related to community relations, mentioning the principle of FPIC, as well as respect of the rights, customs and culture of indigenous peoples as defined in the United Nations Declaration on the Rights of Indigenous Peoples (2007) and ILO Convention 169. Thus, the main standard addresses items (a), (d), (e) and (g). As the applicable laws are listed in the national interpretations, the standards for Brazil and Paraguay were taken as examples. There is not a minimum list of topics for applicable legislation.
	 2.5 Remuneration at least equal to national legislation and sector agreements is received by all workers directly or indirectly employed on the farm. Principle 3 Responsible Community Relations 3.2 In areas with traditional land users (including indigenous peoples), conflicting land uses are avoided or resolved. 3.2.2 Where rights have been relinquished by traditional land users there is documented evidence that the affected communities are compensated subject to their free, prior, informed and documented consent. 3.2.3 Producers are required to respect the rights, customs and culture of indigenous peoples as defined in the United Nations Declaration on the Rights of Indigenous Peoples (2007) and ILO Convention 169 (1989). 		In the case of Brazil, there is a list of applicable laws mapped under the guidance for indicators 1.1.1 and 1.1.2. It includes laws related to labour and workplace conditions, forests, transportation, environmental licensing, water use, waste, among others. There is also an Annex with a list of other environmental legislation. Thus, item (b) is covered. In the case of Paraguay, the guidance for the same indicators mentions a report listing applicable laws in the country for agricultural production. However, this report was

Indicator	Evidence	Outcome	Justification
	Annex 7 - Guidance for National Interpretations 1.1 Provide guidance on what the applicable laws are. List applicable laws in the national interpretation document and on the RTRS website. Include definition of large, medium and small producer.		not found during the assessment. Therefore, it was not possible to assess the topics of legislation that producers are being checked against in this country.
	<u>RTRS BRA v4.0</u> Guidance 1.1.1 – 1.1.2 Applicable Laws: a) Consolidation of Labor Laws (CLT – <i>Consolidação das Leis do Trabalho</i>); b) Forestry Code (Law 4771, 1965) – Regulatory Standards; c) NR- 31 – Workplace Safety and Health in agriculture, livestock, husbandry, forestry, forest exploration and aquaculture; d) Brazilian traffic code and National Land Transport Agency; e) IBAMA's federal technical registry; f) ANP Resolution 12 (supply points); g) Authorization for water catchment / Grant; h) Environmental licensing for agricultural activity (LP, APF, AAF) and its conditions; i) National Solid Waste Policy.		Throughout the standard, several requirements address topics related to item (f) (e.g., non- discrimination, work conditions, health etc), although it is not mentioned directly. Item (h) is not addressed. Therefore, this indicator was classified as PC.
	Annex 10 – Guide for Applicable Laws in Brazil Includes: 1. Fauna Protection, 2. Forests, 3. Fires, 4. Water Resources, 5. Agricultural Techniques, 6. Conservation Units, 7. Environmental Impact Assessment, 8. National Policy on Solid Waste.		
	<u>RTRS PRY v1.1</u> Guidance 1.1.1 – 1.1.2 Recommendations for Auditors and Producers of the NTG of Paraguay for 1.1.1. and 1.1.2.: -Taking as a reference the list of applicable laws from <i>Solidaridad</i> report " <i>Proposing and Consolidating the Development of a Strategy for Promoting Law</i> <i>Compliance</i> " (environmental, forest, watercourses, phytosanitary, etc.) of laws in force, among agricultural produces in Paraguay.		
A.2.3	RTRS RSP v4.0 Guidance Principle 2 Note 1: The requirements of Principle 2 apply to both direct employees and to workers supplied by third parties. The scope of the certification is the farm and its limits; therefore if there are any outsourced workers from third parties, this needs	PC	The standard for producers establishes that requirements in Principle 2 are to be applied to both direct employees and to workers supplied by third parties. Operations are expected to have a mechanism in place which enables producers

Indicator	Evidence	Outcome	Justification
	to be checked, considering such limits and the outsourced third-party workers hired to work on the certified farm. Note 2: The principle applies also to migrant, seasonal and other contract labour.		to adequately verify the compliance of their service providers. However, this is only applied to requirements related to labours conditions. Other applicable legislation for subcontractors is
	 Guidance for Principle 2: In relation to compliance of these requirements by third parties (Note 1): Operations are expected to have a mechanism in place which enables them to adequately verify the compliance of their service providers. Auditors should evaluate the verification mechanism of the operations, to determine whether a sample of service providers should also be assessed by the auditors. <u>RTRS CoC v2.3</u> 7. General Chain of Custody System Requirements for the Supply Chain 2. Chain of Custody Management System 2.1.3 In cases where the organization seeking or holding certification outsources activities to independent third parties (e.g. subcontracts for storage, transport or other outsourced activities) it shall ensure that such independent third parties comply with the intent and requirements of all applicable requirements of the RTRS Chain of Custody standard. 		not included in this context. The CoC standard requires that independent third parties performing outsourced activities must comply with the intent and requirements of all applicable requirements. On the other hand, the previous indicators show that there are not requirements related to compliance with legislation in this standard. Therefore, there is a limited assessment on subcontractors for compliance with legislation under the scheme, and they can be a source of illegal activity associated with the commodity. Thus, this indicator was classified as PC.
B.1.1			
B.1.2	 <u>RTRS_CoC_v2.3</u> 8. Modular requirements The following section (VIII) of the standard includes the RTRS Chain of Custody system modules. An organization must implement at least one of the modules in addition to VII General Chain of Custody Requirements for the Supply Chain above. Several modules can be implemented simultaneously. The following modules are currently available: Module A – Mass Balance Chain of Custody 	FC	All organizations making claims on RTRS- certified products must implement a traceability system. The scheme offers 5 different modules depending on the scope of certification. The MB system allows the mixing of certified and non- certified material, as long as the output of RTRS MB material supplied to customers from the physical site does not exceed the input of RTRS MB material. The SG system keeps the certified
	The organization shall ensure that the output of RTRS mass balance material supplied to customers from the physical site does not exceed the input of RTRS mass balance material received at the physical site, using either a continuous accounting system or a fixed inventory period. Module B – Segregated Chain of Custody		material separated and makes sure that material originates from RTRS certified farms. The Multi- site module allows for the certification of multiple sites for the same organization, implementing the MB or the SG at each individual site. The non- GMO module applies to organization supplying
Indicator	Evidence	Outcome	Justification
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	This module specifies the requirements for 'segregated' RTRS soy/corn chain of custody systems. In such a system RTRS certified soy/corn, soy/corn derivatives and soy/corn products are kept separate from all non RTRS-certified soy/corn, soy/corn derivatives and soy/corn products. This system allows those taking ownership of material to be certain that the material is (or is made from) soy/corn that originates from RTRS certified farms. Since RTRS-certified material can be mixed with other RTRS certified material, such a segregation system is not designed to deliver traceability back to a specific farm.		non-GMO products. The EU RED module appli to companies supplying products to the EU und the RED Regulation, implementing the ma palance system with additional requirements. Among these, only the SG system allows to assurance that the products come from RTF certified farms and, therefore, are produced accordance to the social and environmen
	Module C – Multi-site The multi-site Chain of Custody system is a cost-effective way of implementing CoC certification. A single RTRS CoC certificate is issued covering multiple sites under the control of the same company. The requirements of the RTRS segregated or mass balance CoC systems are implemented at each individual site. The company has a centrally administered multi-site CoC system, called the Internal Control System (ICS), which ensures that the RTRS CoC requirements are implemented at all sites. As part of the ICS, internal audits are carried out at all sites annually.		requirements of the scheme. This must be taken into consideration by operators using this scheme as support in compliance with the EUDR. This indicator was classified as FC.
	Module D – non-GMO This module specifies the requirements for RTRS non-GMO soy physical supply chains: i.e. for RTRS certified soy, soy derivatives and soy products that are also certified by RTRS as 'non-GMO' and physically traced throughout the supply chain. It does not apply to RTRS non-GMO credits sold through the RTRS platform.		
	Module E – EU RED For companies seeking to supply soy, soy derivatives and soy products to the EU biofuel market, they must implement a mass balance system which includes additional elements, not covered in Module A. In addition to the chain of custody requirements, supply chain operators must also meet the requirements of the RTRS EU RED Compliance Requirements for the Supply Chain. It is important to note that communicating RTRS EU RED data is not the same as making claims about RTRS EU RED compliance. Claims about RTRS EU RED compliance can only be made under specific circumstances laid down in the RTRS EU RED		

Indicator	Evidence	Outcome	Justification
	Compliance Requirements for the Supply Chain.		
B.2.1	 RTRS CoC v2.3 6. General Chain of Custody System Requirements for Producers 1.2 Identification of outputs 1.2.1 The organization shall ensure that all invoices issued for soybeans/corn supplied with RTRS claims include the following information: a) Identification of the organization (e.g. name, address, other relevant information); b) Identification of the customer (e.g. name, address, other relevant information); c) Date when the document was issued; d) Description of the product, including whether soy/corn is RTRS, or RTRS non-GMO; e) Quantity of the products sold; f) The organization's RTRS Chain of Custody certificate number. 7. General Chain of Custody System Requirements for the Supply Chain 4.1 Identification of inputs 4.1.1 The organization shall check the supplier invoice and supporting documentation to ensure the following: a) The supplied RTRS material quantities are in compliance with the supplied documentation, including specific amounts of non-GMO soy if applicable; b) The RTRS Chain of Custody system is stated for each product item or for the total products. 	PC	The CoC standards defines the rules for identification of inputs and outputs throughout the supply chain. In the invoice of soybeans supplied with RTRS claims, a series of information must be recorded, including: identification of organization and costumer (name, address other relevant information), date of issue, description of the product, quantity, and certificate number. While the country/area of production is not mentioned, this could be traced back via this chain of invoices. The geolocation of the plots of land used for production and the time range of production are not provided by the scheme. As seen in the previous indicator, there are no systems in places to deliver traceability back to a specific farm. Therefore, this indicator was classified as PC.
	 4.3 Identification of outputs 4.3.1 The organization shall ensure that all invoices issued for outputs supplied with RTRS claims include the following information: a) Identification of the organization (e.g. name, address, other relevant information); b) Identification of the customer (e.g. name, address, other relevant information); c) Date when the document was issued; d) Description of the products, including non-GMO material if applicable; 		

Indicator	Evidence	Outcome	Justification
	 e) Quantity of the products sold; f) The applicable RTRS Chain of Custody system used; g) g) The organization's RTRS Chain of Custody certificate number. 		
B.2.2	<u>RTRS CoC v2.3</u> 2. Chain of Custody Management System 2.2 Procedures 2.2.1 The organization shall establish, implement and maintain procedures and/or work instructions covering all applicable requirements of the RTRS Chain of Custody standard, including specific rules for non-GMO soy (see "RTRS non- GMO Module Requirements for Producers"). The procedures and/or work instructions shall be according to the scale and complexity of the organization. 2.2.2 The organization shall define the personnel responsible for implementing each procedure, together with the qualifications and/or training measures required for its implementation.	FC	The CoC standard sets requirements to handle RTRS certified material and maintain the claims over the material. The scheme requires that the organization establish, implement, and maintain procedures to all applicable requirements (thus it is expected that that are procedures in place for handling the material). The scheme requires the identification and recording of critical control points (e.g., points where there is a risk of uncontrolled mixing or substitution between RTRS certified and uncertified material, or materials from different RTRS Chain of Custody
	 4. Handling of RTRS certified material 4.2 Critical control points 4.2.1 The organization shall identify and record all critical control points where there is a risk of uncontrolled mixing or substitution between RTRS and RTRS non-GMO material, or between RTRS certified and uncertified material, including cases where the organization seeking or holding certification outsources activities to independent third parties (e.g. subcontracts for storage, transport or other outsourced activities) 		systems). Specific requirements for managing critical control points are set in the modules of CoC certification. For MB, organizations must guarantee that inputs come from RTRS certified material under MB or SG system. Inventory can be done via continuous balance systems or fixed inventory periods.
	 4.2.2 Where the organization is simultaneously implementing more than one of the RTRS Chain of Custody system described in the RTRS Chain of Custody standard, it shall identify and record all critical control points where there is a risk of uncontrolled mixing or substitution between materials from different RTRS Chain of Custody systems. 4.2.3 The organization shall ensure that critical control points are managed according to the requirements set out in Chain of Custody System module requirements. 		For SG system, organizations must guarantee that inputs come from RTRS certified material under SG system, and not MB. Organizations must have in place an effective system in place that is designed to ensure no intermixing between RTRS SG and non-RTRS SG material (e.g., classifying the first flow of product through the system as non-RTRS, when following a change from non-RTRS to RTRS). In the case of
	Module A. Mass Balance Chain of Custody: System requirements A 2. Handling of RTRS certified material A 2.1. Critical control points		Multi-site, beyond complying with the appropriate module (e.g., MB or SG), organizations must also undertake a risk assessment including all

Indicator	Evidence	Outcome	Justification
Indicator	 Evidence A 2.1.1. Where the organization is simultaneously implementing more than one of the RTRS Chain of Custody System, it shall ensure that inputs into the RTRS mass balance system is RTRS certified material sourced from organizations operating either RTRS mass balance chain of custody systems or RTRS segregation chain of custody systems. A 2.4. Continuous balancing systems A 2.4.1. Where a continuous balancing system is in operation, the organization shall ensure that the quantity of physical RTRS mass balance material inputs and outputs (volume or weight) at the physical site are monitored on a real-time basis. A 2.5. Fixed inventory periods A 2.5.1. Where a fixed inventory period is in operation, the organization shall ensure that the quantity of RTRS mass balance material inputs and outputs (volume or weight) are balanced within a fixed inventory period which does not exceed one year (12 months). Module B. Segregated Chain of Custody: System requirements B 2.1.1. Where the organization is simultaneously implementing more than one of the RTRS Chain of Custody Systems it shall ensure that inputs into the RTRS Segregated system are of RTRS certified material sourced from organizations operating RTRS Segregated chain of custody systems and are not from RTRS mass balance systems. B 2.1.2. There is an effective system in place that is designed to ensure no intermixing between RTRS segregated claims about the material outputs are being made. Note: such a system may include for example allocation adjustments (e.g. that the first flow of product through the system following a change from non-RTRS material is classed as non-RTRS) or other systems. Flushing of the processing or storage equipment between flows of RTRS and non-RTRS material 	Outcome	Justification sites proposed to be included within the multi-site system, identifying the risk of unwanted and uncontrolled mixing or substitution of RTRS. Therefore, this indicator was classified as FC.
	made. Note: such a system may include for example allocation adjustments (e.g. that the first flow of product through the system following a change from non-RTRS to RTRS material is classed as non-RTRS) or other systems. Flushing of the processing or storage equipment between flows of RTRS and non-RTRS material can be used as such a system, but physical cleaning is not a requirement of this module. Module C. Multi-site Chain of Custody: System requirements		

Indicator	Evidence	Outcome	Justification
	C 5 Risk assessment C 5.1.1. Prior to the main certification assessment by the CB the company shall undertake a risk assessment including all sites proposed to be included within the multi-site system, identifying the risk of unwanted and uncontrolled mixing or substitution of RTRS. C 5.1.2. The company shall provide the nominated Certification Body (CB) with an up to date risk assessment before the initial audit and each subsequent surveillance audit. C 5.1.3. The risk assessment shall be updated whenever there is a change in operations, and when new sites are proposed for addition to the multi-site certification.		
B.2.3	RTRS CoC v2.3 Module A. Mass Balance Chain of Custody: System requirements A 1. Scope of the system A 1.1. Applicability A 1.2. Scope of the Chain of Custody Management System A 2. Handling of RTRS certified material A 2.1. Critical control points A 2.2. Material accounting system for RTRS data -Inputs -Outputs A 2.3. Allocation of RTRS data A 2.4. Continuous balancing systems A 2.5. Fixed inventory periods	NC	The scheme allows for the mixing of certified and non-certified material under the MB system. Organizations adopting this system must ensure that the output of RTRS MB material supplied to customers from the physical site does not exceed the input of RTRS MB material received at the physical site. The module setting the requirements for this system is structured in a) scope of the system (addressing the applicability and the scope for the CoC system), and b) handling certified material (addressing critical control points, material account system, allocation of data, continuous balancing systems, and fixed inventory periods). No evidence was found of requirements for social and environmental attributes of the non-RTRS entering the supply chain under the MB system. This means that the non-certified products can be sourced from farms conducting deforestation for agricultural production and, therefore, non- compliant with the EUDR. These aspects must be taken into consideration by operators. Therefore, this indicator was classified as NC.

Indicator	Evidence	Outcome	Justification
B.2.4	Same as above.	NC	As discussed above, the non-certified products entering the supply chain are not required to be produced in accordance with relevant legislation in the country of production. Therefore, they can be associated with illegal activity, increasing the risk of non-compliance with the EUDR. This indicator was classified as NC.
C.1.1	Same as above.	NC	As there are no requirement for social and environmental performance of non-certified products entering the supply chain, there are no procedures in place. Thus, this indicator was classified as NC.
C.2.1			
C.2.2	RTRS RSP v4.0PreambleNational Interpretation: Each soy-producing country is encouraged to make anational interpretation of the standard, which, once endorsed by the RTRS, shallbecome the basis for certification in that country. National interpretationprocesses are required to meet the RTRS requirements for national interpretationrelated to process and content. When considering how to interpret this standardfor national use, the Guidance for National Interpretation (Annex 7) must befollowed. Groups carrying out national interpretation may not createrequirements, which are less stringent than the International RTRS Standard.Annex 7 - Guidance for National InterpretationsThis guidance must be followed by RTRS National Technical Groups whendeveloping National Interpretations of the RTRS Standard for Responsible SoyProduction.Criterion 1.1Provide guidance on what the applicable laws are. List applicable laws in thenational interpretation document and on the RTRS website. Include definition oflarge, medium and small producer.	FC	The standard for producers establishes that NIs must become the basis for certification in a country once endorsed by the RTRS. They are mentioned in the guidance of a few indicators and are expected to provide further guidance taking into account the national context. Principles, criteria, and indicators are assured consistency across NIs, as these are not changed. In fact, they are provided in full in the beginning of the documents, with changes made only in the guidance as additions to the text of the main standard, serving as a complement. The guidance for NIs is set in Annex 7 of the main standard, displaying what information is expected for each criterion. Taking the NIs for Brazil and Paraguay as examples, the indicators related to criteria A.1 and A.2 of this framework remain the same. The main differences observed are related to the list

Provide further definition of what constitutes acceptable evidence of legal use rights to land and appropriate methods of proving rights. Provide guidance on how to deal with situations where the legal process for resolving land tenure and use rights is very long. Address rental and sharecropper agreements where applicable. Consider also if a minimum holding of the property (lease period) is applicable.	of applicable laws requires in criterion 1.1. Since the report to which the Paraguayan interpretation refers to as the source of the list of applicable law in the country could not be found during this assessment, it was not possible to compare these aspects between the two countries. As for criterion 4.4, both interpretations modified the
 Criterion 4.4 4.4.1.2 c) Option 1 Compile a list of appropriate official maps National interpretations should: Further elaborate the definition of native forest including identifying the biomes which meet this definition. Not establish requirements less stringent than the generic definition. Provide guidance on how these areas can be identified. 	guidance to add relevant legislation/legal procedures of the country. Therefore, to the extent of evidence found in relation to aspects relevant to this framework, this indicator was classified as FC.

<u>RTRS_BRA_v4.0</u>

Guidance 1.1.1 – 1.1.2

Applicable Laws: a) Consolidation of Labor Laws (CLT – *Consolidação das Leis do Trabalho*); b) Forestry Code (Law 4771, 1965) – Regulatory Standards; c) NR-31 – Workplace Safety and Health in agriculture, livestock, husbandry, forestry, forest exploration and aquaculture; d) Brazilian traffic code and National Land Transport Agency; e) IBAMA's federal technical registry; f) ANP Resolution 12 (supply points); g) Authorization for water catchment / Grant; h) Environmental licensing for agricultural activity (LP, APF, AAF) and its conditions; i) National Solid Waste Policy.

Annex 10 – Guide for Applicable Laws in Brazil

Includes: 1. Fauna Protection, 2. Forests, 3. Fires, 4. Water Resources, 5. Agricultural Techniques, 6. Conservation Units, 7. Environmental Impact Assessment, 8. National Policy on Solid Waste.

RTRS PRY v1.1

Guidance 1.1.1 - 1.1.2Recommendations for Auditors and Producers of the NTG of Paraguay for 1.1.1.

Indicator	Evidence	Outcome	Justification
6.2.1	and 1.1.2.: - Taking as a reference the list of applicable laws from <i>Solidaridad</i> report " <i>Proposing and Consolidating the Development of a Strategy for Promoting Law</i> <i>Compliance</i> " (environmental, forest, watercourses, phytosanitary, etc.) of laws in force, among agricultural produces in Paraguay.	PC	The standard for responsible soy production
C.3.1	 <u>RTRS RSP V4.0</u> 1.1.3 Producers must not be involved in any act of corruption, extortion, or embezzlement, nor in any form of bribery, including - but not limited to - promising, offering, giving, or accepting any improper incentives, monetary or otherwise. Guidance 1.1.3 Large producers shall have systems and a written policy in place to manage bribery risks in their organizations. 2.1.7 There is a policy in place that shows the farm's commitment to not engage in, support, or tolerate any form of discrimination. 2.3 A safe and healthy workplace is provided for all workers. Guidance 2.3 The means of verification used should be appropriate to the size and scale of the operation. E.g. (2.3.1) For operations with permanent employees there should be a documented health and safety policy in place. For small farms, can be demonstrated through verbal explanations. 2.3.2 Relevant health and safety risks are identified, procedures are developed to address these risks by employers, and these are monitored. 2.3.6 Accident and emergency procedures exist and instructions are clearly understood by all workers. 4.2.2 All waste is adequately stored and disposed of (e.g. fuel, batteries, tires, lubricants, sewage). 5.1.4 Where irrigation is used, there is a documented procedure in place for applying best practices and acting according to legislation. 5.9.1 There are documented procedures in place that specify good agricultural practices, including minimization of drift, in applying agrochemicals and these procedures are being implemented. 	PC	The standard for responsible soy production requires the development of policies and procedures for some specific requirements (e.g., bribery, discrimination, health and safety, waste, irrigation). However, these do not cover comprehensively all requirements, and the need to review them is not specified. There are also no requirements for the management of the certification requirements, such as responsibilities, competences and internal control. In turn, the CoC standards requires that organizations in the supply chain establish responsibilities for compliance with the requirements, procedures, and training. Therefore, this indicator was classified as PC.
	procedures are being implemented. RTRS CoC v2.3 7 General Chain of Custody System Requirements for the Supply Chain		

Indicator	Evidence	Outcome	Justification
	 2.1 Responsibilities 2.1.1 The organization shall have an appointed management representative with overall responsibility and authority for implementation and compliance with all applicable requirements of the RTRS Chain of Custody standard. 2.1.2 Staff responsible for implementing the requirements of the RTRS Chain of Custody standard shall demonstrate awareness of the organization's procedures and competence in implementing all applicable requirements of the RTRS Chain of Custody standard. 2.2 Procedures 2.2.1 The organization shall establish, implement and maintain procedures and/or work instructions covering all applicable requirements of the RTRS Chain of Custody standard, including specific rules for non-GMO soy (see "RTRS non-GMO Module Requirements for Producers"). The procedures and/or work instructions shall be according to the scale and complexity of the organization. 2.2.2 The organization shall define the personnel responsible for implementing each procedure, together with the qualifications and/or training measures required for its implementation. 2.3 Training 2.3.1 The organization shall establish and implement a training plan according to the qualifications and/or training measures defined for each procedure. 		
C.3.2	 <u>RTRS CoC v2.3</u> 6. General Chain of Custody System Requirements for Producers 1.4 Records 1.4.1 The organization shall maintain complete and up-to-date records covering all applicable requirements of the RTRS Chain of Custody standard. 1.4.2 The organization shall implement a record keeping system for all records and reports, including purchase and sales documents, training records, production records and volume summaries. Specific rules apply to RTRS non-GMO soy (see "RTRS non-GMO Module Requirements for Producers") or Country Material Balance. The record retention period shall be specified by the organization and shall be at least five (5) years. 7. General Chain of Custody System Requirements for the Supply Chain 	PC	Producers and supply chain actors must maintain complete and up-to-date records covering all applicable requirements of the RTRS CoC standard. Records must be kept for at least 5 years. However, the same requirement was not found for the standard for responsible soy production. Thus, no evidence was found related to the record of evidence of compliance by the producers. Therefore, this indicator was classified as PC.
	2.4 Records 2.4.1 The organization shall maintain complete and up-to-date records covering		

Indicator	Evidence	Outcome	Justification
	all applicable requirements of the RTRS Chain of Custody standard. 2.4.2 The organization shall implement a record keeping system for all records and reports, including purchase and sales documents, training records, production records and volume summaries. The record retention period shall be specified by the organization and shall be at least five (5) years.		
C.3.3	<u>RTRS ACP/RSP v4.3</u> Module A. Operational and Assessment Requirements for Certification against RTRS Principles and Criteria for Responsible Soy Production A2. Assessment Requirements	PC	For awarding of certificates, all non- conformances shall be closed in the same audited campaign. Furthermore, as discussed in indicator A.1.1 of this framework, land legally converted after June of 2016 is not certifiable.
	Awarding of certificates A.2.7.1. A certificate shall only be issued after a positive formal certification decision has been taken by the designated certification decision making entity. A.2.7.2. For Initial Audits, all Non-Conformances shall be closed in the same audited campaign. In case this is not achieved, a new full audit shall take place. A.2.7.3. The certification decision shall be made by a person or a group of people qualified for this task from the certification body, and different from the auditor (s) that carried out the assessments, based on the report, peer review comments and the successful close-out of any major non-conformity identified during the main assessment (see Section A 2.10).		The scheme classifies NCs as minor and major. Major NCs are those resulting in (or likely to result in) failure to achieve the objectives of the relevant criterion, or failure in a significant part of the applied management system. All NCs shall lead to CAR. Logically, failure to meet the rules for compliance with laws as set out in criterion 1.1 and conversion as set out in criterion 4.4 should then lead to a major NCs.
	 Maintenance and recertification A.2.7.9. Prior to the end of the 5-year period, a full re-assessment shall take place prior to the issuance of a new certificate A.2.7.10. In case of the identification of any non-conformity during a re-assessment audit the CB shall establish the time for the implementation of the corrective actions prior to the expiration of the certification. A 2.10. Non-conformities A 2.10.1. All non-conformities that are identified by the CB during an assessment shall be systematically recorded in the assessment report or associated checklists. A 2.10.2. All non-conformities shall be classified as minor or major. 		Major NCs must be addressed within 30 days of the CAR being raised. If they are not addressed in this timeframe, certificate is suspended for 60 days, and during this time no product can be sold as RTRS. If they are not addressed in these 60 days, then certificate is withdrawn. There is no clarity whether it is possible to establish CAR for NCs related to criteria 1.1 and 4.4, which requires further investigation. Up to the evidence collected, there is no guarantee of certificate suspension/withdrawn due to violation of these requirements, unless they lead to major NCs that
	A 2.10.3. A non-conformity is considered minor if: (a) It is a temporary lapse, or (b) It is unusual / non-systematic, or (c) The		are not addressed in the expected timeframe.

Indicator	Evidence	Outcome	Justification
	impacts of the non-conformity are limited in their temporal and spatial scale, and (d) It does not result in a fundamental failure to achieve the objective of the relevant RTRS criterion or another applicable certification requirement.		Nevertheless, deforestation is still allowed under certain circumstances (see requirements for minimal levels of conversion in indicator A.1.1 of this framework). Thus, deforestation can occur in
	 A 2.10.4. A non-conformity shall be considered major if, either alone or in combination with further non-conformities, it results in, or is likely to result in a fundamental failure: (a) To achieve the objectives of the relevant RTRS criterion, or (b) In a significant part of the applied management system. A 2.10.5. All non-conformities shall lead to Corrective Action Requests (CAR) to the certification applicant/certificate holder. 		full compliance with the scheme. Furthermore, the CoC standard does not present requirements related to compliance with legislation (see indicator A.2.1 of this framework), and there is no evidence that illegal activities can lead to certificate suspension/withdraw for supply chain organizations. Due to the gaps identified this
	A 2.10.6. The certification body shall determine which non-conformities constitute a major non-conformity, using the definition in A.2.10.4. and considering the progress approach of A2.10.12 and Annex 5. A 2.10.7. The CB shall not issue a certificate of compliance or re-issue a		indicator was classified as PC.
	certificate until any major non-conformity is closed out to the satisfaction of the certification body. A 2.10.8. Major non-conformities raised during a surveillance assessment shall be closed out to the satisfaction of the certification body within 30 days of the CAR being raised. The CB may permit one further extension of 3 months, if		
	implementation was not possible due to circumstances beyond the control of the operation manager. A 2.10.8.1. Failure to do close out the non-conformity during the stated period will result in the suspension of the certificate for a maximum period of 60 days during which time no products may be sold as RTRS certified and no claims relating to RTRS por RTRS logouse permitted		
	A 2.10.8.2. Failure to close out the major non-conformity after this suspension period will result in the certificate being withdrawn. In such a case a new main compliance assessment would be required. A 2.10.9. Minor non-conformities shall be addressed in a timely manner as determined by the certification body.		
C.3.4	RTRS_ACP/RSP_v4.3 VI. General Accreditation Requirements for Certification Bodies 2. Application and Approval Process for CBs 2.2. Accreditation and surveillance Core competency requirements	FC	The scheme requires that the CBs certifying responsible soy production comply with the requirements of ISO/IEC 17065, therefore covering the topics addressed in this indicator.

Indicator	Evidence	Outcome	Justification
	2.2.1. The certification body shall comply with the requirements of ISO/IEC 17065		Furthermore, it provides a series of requirements
	and with the additional requirements specified in this procedure.		related to impartiality, such as policy and
	2.2.4. A CB shall demonstrate that it has developed all of the required,		procedures for conflict of interests, the
	documented procedures as specified in ISO/IEC 17065 and in this document.		establishment of a committee, records of
	2.2.8. The Accreditation Body shall conduct annual surveillance evaluations of		discussions, recommendations, and corrective
	CBs. Evaluations shall ensure that the CB complies with the requirements in this		actions, among others. It also establishes t minimum technical skills and qualifications
	procedure, including but not limited to: a) The management system of the CB; b)		
	The competence of assurance personnel; c) The process implemented by the		auditors. The standard for CBs certifying CoC
	CBs for audits, surveillance and monitoring of claims.		also cover these topics, only with different requirements for the qualification of auditors.
	3. Systems and Procedures Requirements		Overall, this indicator was classified as FC.
	3.2. CB independence, impartiality and integrity		
	3.2.1. The CB shall maintain a written policy and procedures for avoidance of		
	conflict of interest.		
	3.2.2. Procedures for identifying and managing conflicts of interest shall include		
	provision for a specific independent committee, of at least 3 individuals, set up by		
	the certification body. A single mechanism for several certification schemes can		
	satisfy this requirement.		
	3.2.3. The independent committee shall: Meet at least annually; Be independent		
	of the financial control of the organization; Be independent of certification		
	decision making; Formally review the certification body's performance with		
	respect to independence; Formally record its discussions and recommendations,		
	and the CB's response to them.		
	3.2.4. Records of the conflict of interest committee's discussions,		
	recommendations and consequent corrective actions shall be maintained for at		
	least 10 years.		
	3.2.5. Certification bodies and members of assessment teams shall have		
	maintained independence from the organization or related organizations for a		
	minimum of five years to be considered not to have a conflict of interest.		
	Independence in this context means not having been employed in or by the		
	organization being assessed or undertaking any consultancy activities or other		
	service provision, except for certification or verification activities.		
	3.2.0. The UB shall not offer assessment or surveillance audits for any		
	organization to which it has provided management advice or technical support		
	related to the scope of RTRS certification, of with whom it has any relationship,		

Indicator	Evidence	Outcome	Justification
	which creates a threat to impartiality. 3.2.7. The CB procedures shall include the contractual obligation for all personnel including subcontracted personnel such as consultants (e.g. interpreters, technical experts) contributing to certification decisions to disclose in writing to the CB all possible and actual conflicts of interest, at the time that the conflict of possibility of conflict becomes evident.		
	 Annex 1. RTRS Lead Auditor Qualifications; for Certification against the RTRS Standard for Responsible Soy Production, Version 4.0 Minimum competencies/qualifications for a lead auditor as defined by RTRS are as follows: 1. Technical skills and qualifications 1.1. Successful completion of an RTRS-endorsed training course which covers an understanding of the RTRS principles, criteria, indicators and guidance, skills related to the specific requirements of the standard, and core process requirements for carrying out RTRS assessments. 1.2. Successful completion of one of the following Lead Auditor training courses: 1.2.1. ISO 9000, 14000, or OHSAS 18000 (minimum duration of 37 hours); or 1.2.2. An ISO 19011 course (minimum duration of 24 hours). 1.3. Participation as an observer auditor under training, in a minimum of three RTRS assessments at different organizations, totalling a minimum of 10 days; of which at least two assessments shall be as the acting lead auditor under supervision. 1.4. Has been the lead auditor for other similar standards which cover the full suite of social, environmental, technical and legal components for agriculture or forestry (for example the Round Table on Sustainable Palm Oil (RSPO), Sustainable Agricultural Network (SAN), Forest Stewardship Council (FSC), UTZ 		
	 Formal qualifications A minimum of post high (secondary) school diploma or equivalent (minimum course duration of 2 years) in a discipline related to the scope of certification or 5 years professional experience in one of the disciplines related to the standard being assessed (e.g., agronomy, ecology). 		

Indicator	Evidence	Outcome	Justification
	 <u>RTRS ACP/CoC v3.3</u> Annex 1. RTRS Lead Assessor Qualifications for Certification against the RTRS Chain of Custody Standards Minimum Competencies/qualifications for an RTRS Chain of Custody Certification lead assessor as defined by RTRS are as follows: 1. Technical skills and qualifications 1.1. Successful completion of an RTRS-endorsed training course8 which covers an understanding of the RTRS CoC standard and basic auditing techniques. 1.2. Successful completion of one of the following Lead Auditor training courses: 1.2.1. ISO 9000, 14000, or OHSAS 18000, (min 37 hours duration); or 1.2.2. An ISO 19011 course (min of 24 hours duration) 1.3. Supervised period of training in practical auditing by a qualified lead auditor of at least 10 days audit experience in similar certification schemes (ie. that include traceability), involving a minimum of two audits of different organizations. 2. Formal qualifications: 2.1. A minimum of post high (secondary) school diploma or equivalent (minimum course duration of 2 years). 		
C.3.5	RTRS ACP/RSP v4.3 Maintenance and recertification A.2.7.7. A certificate shall be valid for 5 years with a requirement for an annual surveillance assessment to confirm continued conformance with the requirements of the standard during this period (see Section A.2.9). A.2.7.8. Annual surveillance audits should take place with a maximum of 15 months after the previous audit. If this is not complied, the CB shall inform RTRS Secretariat, and it will be defined if the certificate needs to be suspended in the RTRS Trading Platform. A.2.7.9. Prior to the end of the 5-year period, a full re-assessment shall take place prior to the issuance of a new certificate. A.2.7.10. In case of the identification of any non-conformity during a re- assessment audit the CB shall establish the time for the implementation of the corrective actions prior to the expiration of the certification.	PC	During the 5 years of the certificate validity, the scheme requires, at minimum, annual surveillance assessments. Other audits can be carried under certain circumstances but are case-specific. Annual surveillance audits should take place with a maximum of 15 months after the previous audit. Therefore, the checks can occur in intervals longer than 12 months. This indicator was classified as PC.

A 2.9. Surveillance assessments

Indicator	Evidence	Outcome	Justification
	A 2.9.1. During the lifetime of the certificate the CB shall conduct, as a minimum, annual surveillance assessments.		
	A2.9.3. If the main assessment did not take place during harvest, then at least one of the surveillance assessments shall take place during this time.		
	A2.9.4. Each annual surveillance assessment will include a review of continuing compliance to the applicable standard. This shall include, but shall not be limited to:		
	A 2.9.4.1. Implementation of any outstanding corrective action requests and continued implementation of any corrective action requests undertaken following previous assessment visits.		
	certificate including any expansion and boundary changes.		
	A 2.9.4.4. Complaints, including both those received and dealt with by the certificate holder and those about the certificate holder received by the CB.		
	A 2.9.4.5. Records of monitoring required by the standard (e.g., agrochemical use, soil quality indicators) and other monitoring records used for demonstrating continual improvement.		
	A 2.9.4.6. Any changes required in response to changes in RTRS requirements or requirements of the CB.		
	A 2.9.4.7. Records of sales of RTRS certified product. A 2.9.5. The surveillance assessment shall always include a visit to a sample of		
	field sites and to the office(s)or farm from where the operation(s) covered by the		
<u>C 4 1</u>	Certificate are managed.	FC	For producers the scheme requires a public
C.4.1	A2. Assessment Requirements	10	consultation process prior to conformity
	A 2.4. Public consultation and preparation for main compliance assessment		assessment. For the audits, the scheme requires
	A 2.4.1 Two weeks prior to the assessment the CB shall publish their intention to		the assessment of documents and records, site
	on their website and inform the RTRS (for publication on the RTRS website).		stakeholders. For CoC, the scheme requires the
	A 2.4.2. The announcement shall be made in the principal language of the		assessment of documents and records, site
	country where the assessment will take place and (if different) one of the three RTRS official languages and shall state details of the entity or entities to be		visits, and checks on outsourced activities. The CB is responsible for determining sufficient

Indicator	Evidence	Outcome	Justification
	 assessed, their location, assessment dates and contact details of the entity and the certification body with an invitation to submit comments on subjects such as: A 2.4.2.1. Legal requirements; A 2.4.2.2. Social issues including interaction with local communities, labour relations and health and safety; A 2.4.2.3. Environmental issues including environmental protection and pollution; A 2.4.2.4. Good agricultural practices; A 2.4.2.5. Any other issue, both positive and negative that may be considered of relevance to the assessment. A 2.4.2.6 Issues relating to other agricultural production units owned by the organization not included in this assessment. A 2.5. Main compliance assessment Documents and records A 2.5.9 The auditor shall identify and assess management documentation and a sufficient variety and number of records at each operation selected for evaluation to make direct, factual observations to verify conformity with all the indicators of the applicable RTRS standard for which documents are a necessary means of verification. 		variety and number of documents, sites, and stakeholders to make direct, factual observations to verify conformity. The sampling strategy is only defined in the case of multi-site CoC certificate. In the case of producers, the CB must detail and justify any sampling methodology in the assessment report. Overall, these requirements satisfied this indicator, which was classified as FC.
	 Selection of sites for evaluation A 2.5.10. Auditors should select sites for inspection based on an evaluation of the critical points of risk in the management system and potential social and environmental risks identified. A 2.5.11. The auditor shall visit a sufficient variety and number of sites within each operation selected for evaluation as to make direct, factual observations as to conformity with: A 2.5.11.1. The organization's documented systems and procedures; including annual summaries of the volume of RTRS certified soybeans/corn harvested and supplied to customers. A 2.5.11.2. All the indicators of the applicable RTRS standards for which inspection is a necessary means of verification, over a range of conditions under management by the applicant operation. A 2.5.12 The CB shall have a procedure which ensures that for each assessment the lead auditor records how sites were chosen. 		

Indicator Evidence

Interviews with directly affected stakeholders

A 2.5.13 The auditors shall interview a sufficient variety and number of people affected by or involved in the farm operation to make direct factual observations as to conformity with:

A 2.5.13.1 The organization's documented systems and procedures;

A 2.5.13.2. All the indicators of the applicable RTRS standard, for which consultation is a necessary means of verification.

RTRS_ACP/CoC_v3.3

Module A. Requirements for Certification against the RTRS Chain of Custody Standard

A 2. Assessment requirements

A 2.3. Compliance assessment

Documents and Records

A 2.3.6. The auditor shall identify and assess chain of custody management system documentation and a sufficient variety and number of records to make direct, factual observations to verify conformity with all of the requirements of the applicable module(s) of the RTRS Chain of Custody Standard.

A 2.3.7. Relevant RTRS Chain of Custody records relating to the receipt, processing (where relevant) and supply of certified soy/corn or soy/corn derivatives shall be reviewed.

Site visits

A 2.3.8. The auditor shall visit a sufficient variety and number of locations and control points within each operation selected for evaluation as to make direct, factual observations as to conformity with:

a) The organization's documented systems and procedures; b) All the requirements of the relevant section(s) of the RTRS Chain of Custody Standard.

Outsourced activities

A 2.3.10. The certification body shall verify compliance with the intent and requirements of the RTRS Chain of Custody Standard by the independent third parties engaged by an organization seeking or holding certification.

A 2.3.11. The Certification body shall have in place and implement procedures to

Indicator	Evidence	Outcome	Justification
	determine when an audit at the site(s) operated by relevant subcontractors shall be necessary. This process must involve an analysis of the risk of uncontrolled mixing or substitution at the different outsourced sites, taking into account factors including, but not limited to: (a) volume being outsourced; (b) the type of process being outsourced; (c) the organization's procedures for ensuring compliance by third parties; (d) the organization's own identification of critical control points.		
	 Module C. Additional Requirements for Multi-site CoC Certification C 2.2. Compliance assessment C 2.2.2. The CB shall select a sample of sites to be visited to assess of compliance with the relevant section(s)of the RTRS Chain of Custody Certification. C 2.2.3. For the purposes of sampling, the CB shall categorize each site included within the scope of the multi-site system. Each category will include sites with the same type of operations that are implementing the same type of chain of custody system(s). C 2.2.4. For the main assessment and re-assessment after 5 years, the minimum number of sampled sites per assessment shall be determined taking the square root (√) of the number of sites in each category. C 2.2.5. For the surveillance assessments, the minimum number of sampled sites per audit or surveillance visit shall be determined taking the 0.6 times the square root (0.6√) of the number of sites in each category 		
C.4.2	RTRS GRU v3.2 V. Requirements for group managers and groups 1.1. Group manager 1.1.1.The group shall be managed by a central organization or individual, i.e. group manager that is responsible for ensuring group's compliance with the RTRS standards and requirements and manages the group documentation. 1.1.2.The group manager shall be a legal entity (e.g. an organization such as a company, NGO or cooperative) or an individual acting as a legal entity (e.g. an agricultural consultant). 1.1.3.Where the group manager is an organization, they shall appoint an employee (management representative) as having overall responsibility	FC	The scheme sets requirements for the group manager and for group members. The scheme requires that group manager establishes procedures and implements an internal audit programme to assure compliance by all group members. The scheme also sets clear rules for sampling sites during conformity assessment of group certification, which depends on the total number of group members and the risk established by the CB (size of sample increases at medium and high risk). Therefore, this indicator was classified as FC.

Indicator	Evidence	Outcome	Justification
	and authority for the group manager's compliance with all applicable		
	requirements of this standard.		
	1.3. Applicable standards and requirements		
	1.3.1. The group manager shall demonstrate knowledge of and compliance with		
	the RTRS Group and multi-site Certification Standard, the RTRS Standard for		
	Responsible Soy Production and when applicable, the RTRS Chain of Custody		
	Standard (requirements for producers).		
	1.3.2. The group members shall demonstrate knowledge of and compliance with		
	the following:		
	1.3.2.1 group rules procedures, and group members' responsibilities.		
	1.3.2.2 the requirements of the relevant RTRS Standard for Responsible		
	Soy/Corn Production.		
	Stondard		
	Stanuaru.		
	 2.1. Group membership and site participation policies 2.1.1 The group manager shall establish, implement and maintain written procedures for group membership covering all applicable requirements of this standard taking into account the scale and complexity of the group, including: a) Organizational structure; b) Responsibilities of group manager and group members; c) Rules regarding eligibility for membership of the group; d) Rules regarding withdrawal/suspension of members from the group; e) Clear description of the process to fulfil any corrective action requests issued internally and by the certification body including timelines and implications if any of the corrective actions are not complied with; f) Procedures and policies for the inclusion of new group members; g) Complaints procedure for group members (for making complaints to the group manager); h) Management, use and disclosure of group member information. 		
	2.1.3.The group manager's procedures shall be sufficient to establish an efficient internal control system (ICS) ensuring that all members/sites are fulfilling applicable requirements.		

3.1. Group and multi-site internal audit3.1.1.The group manager shall implement an internal audit programme consisting

Indicator	Evidence	Outcome	Justification
	of: a) an initial audit of all members/sites; b) a regular and ongoing internal audit		
	programme for all current members/sites.		
	3.1.2. All internal audits shall be documented and these records maintained for a		
	minimum of 5 years.		
	3.1.3. Prior to seeking certification and once certified, prior to admitting any new		
	member/site the group manager shall carry out an initial entry audit of each and		
	2.1.2.1 to ansure that they all fully comply with a) all the relevant		
	5.1.5.1 to ensure that they all fully comply with a) all the relevant		
	Perspective Correspondence and b) the requirements for production		
	of the RTRS Chain of Custody Standard (where relevant); and c) all		
	requirements for participation in the group		
	3 1 3 2 to carry out a simple risk assessment (see note below) for each		
	group member.		
	3.1.5. If any major non-conformities are identified, the group member must		
	not be included in the scope of the certificate until this non-conformity is		
	addressed.		
	3.1.6. The group manager shall use the risk assessment of each group		
	member/site to determine the frequency of subsequent internal audits		
	required for each farm to give the group manager confidence that all		
	farms continue to be in compliance with all relevant RTRS requirements.		
	RTRS GRU/CB v3.2		
	3. Assessment requirements		
	3.2.1. All certification assessments and annual surveillance assessments shall		
	always include a visit to the group manager and assessment of the group		
	manager's procedures and internal control system.		
	3.3.1. All certification assessments and annual surveillance assessments shall		
	also include assessment visits to a sample of group members/sites.		
	3.3.2. During assessment visits to group members/sites CBs shall:		
	a) assess compliance of the group member/ site with the relevant aspects		
	of RIRS Standard for Responsible Soy Production and RIRS Chain of		
	Custody Standard;		
	b) gather information to determine the compliance with the group		
	manager with the requirements of the RTRS Group and Multisite		

Indicator	Evidence	Outcome	Justification
	Certification Standard; in particular effective functioning of the Group Manager's internal control system, including internal audit programme and chain of custody control mechanisms;		
	c) the CB shall explicitly review the group manager's risk assessment of each farm to determine the adequate functioning of their risk assessment		
	3.4.1. The CB shall determine an appropriate sample size for assessment visits to aroun members/sites based on:		
	 a) The Group Manager's risk assessment (see RTRS Group and Multi- site standard); b) The Certification body's own assessment of risk, based on the characteristics of the group, and its members/sites (see Box 1). 		
	3.4.2. Once the risk has been determined on the basis of the variables above, the minimum sample size allowed for main certification assessments and reassessments shall be determined. (The standard provides formula to calculate the minimum sample size depending of the number of total members)		
	3.4.3. Use of the Correction Factor for medium and high risk.		
C.4.3	All standards and supporting documents are publicly available at: <u>https://responsiblesoy.org/biblioteca?lang=en</u>	FC	All standards and supporting documents are publicly available online. Thus, this indicator was classified as FC.
	Document library Access the regulations, standards, national interpretations, procedures and guidelines of RTRS.		
	Documents can be found through a search bar, or filtered by document type (Guidelines, Institutional documents, Procedures, Standard, Work Programme).		
C.4.4	Certified volumes and producers: <u>https://responsiblesoy.org/volumenes-y-productores-certificados?lang=en</u>	FC	The list of producer and CoC certificates are provided in two separate webpages. The information on each certificate includes their
	Information contained in the list includes: Company (Name and Country), Certificate (Start, Number and Current status), Facts (Hectares and Tons), and Crop (Soy, Corn, and non-GMO Soy). Current status of a certificate can be Active or Discontinued.		current status. Further investigation is needed to assess how often the list is updated. But overall, the scheme meets the indicator, which was classified as FC.
	Chain of Custody Certificates: <u>https://responsiblesoy.org/empresas-y-productores-certificados-cadena-de-custodia?lang=en</u>		

Indicator	Evidence	Outcome J	ustification
	Information contained in the list includes: Company (Name and Country), and		
	Certificate (Start, Number and Current status).		
	No information on the last undet		
	No information on the last update.		

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Brazil	51270.6	53808.2	33041.2	12229.0	9154.6	7173.1	5110.3	4385.2	4741.0	5262.4	6011.1	7413.9	6865.3	9289.3	215755.1
Paraguay	211.8	110.1	115.7	263.5	1459.6	2510.1	2231.0	134.9	108.1	154.1	549.3	845.6	446.7	215.8	9356.4
Australia	36.2	47.6	48.3	98.6	134.5	3.4	4.2	5.4	6.5	0.0	0.0	652.4	921.2	838.0	2796.1
Uruguay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.7	128.1	210.4	270.3	291.0	989.5
Chile	58.7	66.0	119.8	156.4	91.4	74.2	75.6	38.3	8.5	15.1	11.0	10.7	6.4	7.5	739.7
Cyprus	5.0	5.2	128.0	131.0	137.5	134.4	136.1	19.4	13.7	7.6	7.6	1.1	3.0	3.1	732.8
South Africa	9.2	4.9	5.4	4.8	44.4	9.2	1.7	8.7	6.0	3.8	15.9	16.7	9.2	6.7	146.6
Namibia	26.5	12.5	17.9	4.5	12.9	12.2	10.7	12.8	10.0	4.6	6.3	2.9	1.0	1.1	135.8
Nicaragua	0.5	0.8	1.9	8.2	7.9	17.8	16.1	12.2	8.8	8.4	4.6	1.8	1.2	1.7	91.9
Mozambique	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.1	21.1
Others	34.9	18.9	59.7	31.2	19.4	16.9	9.2	7.5	6.0	4.2	11.8	16.9	14.2	18.5	269.2
Total											231034.3				

Annex 9 – Deforestation risk (hectares) imported by the European Union associated with the trade of beef and buffalo meat between 2005 and 2018, considering the top 5 countries for each year of analysis

Annex 10 – Deforestation risk (hectares) imported by the European Union associated with the trade of cocoa beans between 2005 and 2018, considering the top 5 countries for each year of analysis

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Côte d'Ivoire	5506.1	5825.5	4849.0	3062.3	3114.5	2107.6	3999.3	5149.8	9571.0	8348.4	7411.5	6614.3	5665.5	2354.0	73578.8
Liberia	121.1	235.4	426.0	1508.1	3225.6	3373.7	6095.9	3502.7	2616.0	1933.0	1857.9	1213.1	863.2	1032.3	28004.0
Indonesia	2726.4	3090.2	2599.8	2070.1	1403.2	1389.6	1423.6	1173.1	1119.9	657.6	713.1	479.2	183.6	214.3	19243.9
Peru	18.2	37.2	65.3	190.1	459.3	365.1	536.3	1078.5	1179.3	1072.3	1410.8	2023.5	2149.4	1931.2	12516.6
Cameroon	530.9	826.7	798.0	959.6	1713.7	1599.1	1509.8	784.4	507.9	326.5	0.0	0.0	542.8	599.7	10699.4
Congo	0.0	0.9	10.5	125.8	271.6	440.9	1235.3	1801.7	1812.2	1543.7	900.4	760.2	750.0	698.5	10351.6
Papua New Guinea	1201.6	1028.7	1363.5	1252.8	1090.1	1170.4	563.6	229.0	81.3	92.2	101.7	105.7	66.1	33.2	8379.8
Ecuador	0.0	0.0	805.3	754.0	560.0	675.6	608.4	380.9	278.6	269.1	1025.1	833.9	869.5	667.0	7727.4
Guinea	620.7	416.3	265.2	102.7	25.7	19.3	27.7	68.9	35.9	11.4	37.9	153.5	66.4	73.9	1925.5
Others	1123.4	1011.5	1340.0	1216.6	2102.8	1307.9	1384.6	1116.9	1057.8	904.7	1059.2	1117.5	1483.5	1152.6	17379.1
Total 1											189805.9				

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Honduras	564.7	631.8	474.7	1253.1	3299.4	6061.0	5163.3	5407.8	4890.2	2659.1	447.0	1030.2	1665.5	1807.2	35354.9
Peru	141.0	262.4	528.2	831.6	1635.0	2008.4	2233.4	2185.8	2199.1	1310.2	1210.0	1601.1	2707.8	3079.8	21934.0
Côte d'Ivoire	1561.3	1472.7	1160.1	321.0	78.6	163.6	2843.1	2283.2	2800.8	2165.7	1147.7	1299.2	1368.3	281.1	18946.5
Colombia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.0	174.0	206.0	1204.9	3584.1	6937.5	6589.9	18761.3
Uganda	251.5	494.2	1005.5	982.7	1093.2	916.3	1361.8	930.6	1039.9	1196.8	1219.7	541.3	427.0	409.7	11870.1
Indonesia	1273.3	1020.6	655.7	1132.5	1017.0	763.3	476.3	621.7	851.4	655.1	854.8	632.5	410.6	202.5	10567.3
Brazil	1791.8	1027.4	625.3	386.7	402.9	335.9	319.8	283.7	313.7	387.6	328.8	299.5	315.4	518.9	7337.4
Tanzania	476.1	974.8	1159.6	641.9	322.9	234.4	224.6	187.0	200.0	497.7	634.8	461.0	284.5	337.7	6637.0
Congo	593.4	584.9	1121.6	701.2	415.7	506.3	430.0	409.2	482.0	382.5	175.4	204.8	204.9	225.4	6437.4
Vietnam	39.6	53.3	88.9	171.0	308.3	515.4	469.4	624.0	537.4	598.2	505.2	601.4	515.4	491.0	5518.5
Papua New Guinea	274.2	311.3	217.3	507.4	549.2	574.1	436.5	650.1	236.2	156.6	115.3	174.7	189.1	76.6	4468.9
Laos	677.1	442.3	421.5	412.4	401.4	379.1	354.4	209.4	332.6	231.1	222.7	150.1	80.4	41.3	4355.8
Others	1322.7	1368.1	1217.4	949.9	1050.0	991.0	1176.2	997.0	587.5	575.4	632.6	661.7	701.2	689.3	12920.1
Total												88873.9			

Annex 11 – Deforestation risk (hectares) imported by the European Union associated with the trade of green coffee between 2005 and 2018, considering the top 5 countries for each year of analysis

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Indonesia	25598.0	33897.7	34839.8	51179.8	72283.4	39360.4	31812.1	34229.1	35363.4	35750.8	42879.8	50576.1	47615.0	48201.6	583587.1
Malaysia	4094.3	3970.1	4589.4	5498.0	6288.7	6552.6	5397.2	6712.0	5346.9	3973.6	4526.4	3668.2	2096.5	2254.2	64968.1
Papua New Guinea	2926.3	4286.0	5567.1	6873.0	7779.2	7903.7	5467.5	4207.0	1529.2	1469.5	1588.4	1634.3	1670.4	1463.8	54365.4
Colombia	0.0	0.0	0.0	0.0	0.0	24.1	119.8	133.3	178.9	259.0	1081.1	3948.0	9841.6	9276.6	24862.4
Honduras	0.4	0.2	36.9	40.2	159.9	46.0	291.0	840.2	536.4	784.0	633.7	700.0	488.1	684.0	5241.0
Solomon Islands	0.0	8.1	76.6	328.3	417.9	460.5	553.7	154.0	301.7	62.0	103.1	116.2	281.2	110.5	2973.7
Guatemala	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	45.0	384.9	604.7	640.8	716.9	2394.0
Brazil	74.3	5.4	0.3	30.2	29.6	10.3	34.3	0.4	84.3	276.1	482.8	214.7	201.7	142.8	1587.2
Ecuador	0.0	0.0	134.0	114.9	127.7	67.2	499.5	437.3	73.0	22.9	11.4	0.0	0.0	0.0	1487.8
Côte d'Ivoire	88.3	9.6	82.0	219.8	350.9	295.7	128.4	40.8	43.3	51.7	29.7	49.1	22.1	15.7	1427.2
Thailand	4.1	15.6	50.7	76.7	16.7	18.4	80.6	113.7	108.1	45.2	7.1	9.1	7.2	6.4	559.5
Others	19.1	2.3	1.6	4.7	2.3	28.6	95.6	87.2	34.2	217.9	36.0	66.7	76.5	370.6	1043.3
							Total								95941.5

Annex 12 – Deforestation risk (hectares) imported by the European Union associated with the trade of palm oil fruit between 2005 and 2018, considering the top 5 countries for each year of analysis

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Indonesia	1307.4	2001.9	2467.6	2111.6	1625.6	1745.1	1995.8	3465.5	4014.1	4701.8	4899.1	4144.5	2691.0	2861.0	40031.9
Côte d'Ivoire	738.0	1162.3	1926.1	1583.1	1188.4	1055.1	742.1	335.9	682.4	736.1	817.1	762.9	606.7	300.5	12636.6
Malaysia	0.0	0.0	0.0	0.0	0.0	54.6	262.0	780.2	940.0	1487.4	1210.5	1183.0	582.5	374.7	6875.0
Thailand	90.8	127.5	166.0	177.3	136.8	384.3	580.1	729.4	773.9	848.0	848.8	758.3	348.9	257.5	6227.9
Vietnam	147.4	144.4	169.5	154.5	113.6	181.8	174.6	200.0	227.0	401.8	536.7	553.1	550.7	442.4	3997.4
Liberia	160.3	135.7	43.3	17.3	20.9	285.0	333.6	188.2	196.3	325.3	62.7	191.7	382.3	759.6	3102.3
Papua New Guinea	472.8	579.8	768.6	620.5	204.0	217.5	96.4	38.2	5.6	4.0	3.1	3.5	2.1	2.6	3018.7
Cambodia	0.0	0.0	0.0	7.3	9.1	76.3	94.2	122.5	214.9	326.0	516.2	590.6	375.3	167.0	2499.4
Gabon	27.1	137.8	168.7	275.6	241.6	236.6	153.0	86.3	39.5	52.5	66.4	63.9	99.6	98.2	1746.6
D. R.of the Congo	161.7	517.7	351.2	119.0	51.2	43.3	25.5	2.2	2.6	85.1	20.2	17.9	12.9	16.2	1426.6
Congo	14.8	31.2	15.8	61.0	178.2	213.3	232.4	150.0	186.5	75.0	48.5	1.8	6.7	42.7	1257.8
Cameroon	159.2	167.2	150.9	93.6	34.5	67.4	59.8	61.6	37.3	39.4	15.3	13.3	14.7	8.0	922.1
Brunei	77.5	41.7	376.5	52.7	28.9	23.1	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	601.0
Others	157.9	86.3	144.6	209.2	130.0	242.1	177.4	95.1	121.3	102.2	133.1	185.8	142.0	150.3	2077.2
						Tot	al								20649.0

Annex 13 – Deforestation risk (hectares) imported by the European Union associated with the trade of natural rubber between 2005 and 2018, considering the top 5 countries for each year of analysis

Annex 14 – Deforestation risk (hectares) imported by the European Union associated with the trade of soybeans between
2005 and 2018, considering the top 5 countries for each year of analysis

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Brazil	123507.9	96153.2	69330.9	41648.1	27916.4	23675.1	26672.7	41443.5	32701.4	34392.8	32409.3	31436.9	23315.6	23297.6	627901.1
Paraguay	4294.8	5198.6	5498.6	7797.8	10762.1	14454.0	18538.9	33550.5	24660.3	22230.5	22150.8	15697.0	9450.2	3154.7	197438.8
Argentina	47774.5	44038.5	32222.2	19218.8	5550.3	1104.2	1169.8	1065.5	694.3	724.0	0.0	0.0	0.0	0.0	153562.2
Uruguay	0.1	0.0	55.2	74.1	136.0	246.0	164.0	0.0	385.2	100.7	517.9	642.8	135.7	0.0	2457.7
Bolivia	54.3	79.2	363.5	566.1	19.3	7.1	10.0	108.5	157.3	84.2	25.0	51.6	0.0	69.7	1595.7
Togo	0.0	0.0	2.0	13.2	8.4	12.0	14.9	27.0	54.1	20.9	39.9	63.5	163.7	198.8	618.4
India	0.0	0.0	4.3	18.5	9.7	3.1	61.7	75.8	162.3	121.1	70.1	8.5	38.9	3.5	577.5
Belize	109.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.3	148.4
Benin	0.0	0.0	0.0	0.0	2.7	17.5	0.0	0.2	2.9	1.5	0.0	0.4	3.6	3.4	32.4
Zambia	0.0	6.4	2.8	0.0	0.0	0.0	0.0	0.0	0.7	0.1	0.0	0.7	1.7	4.5	16.9
Others	3.3	3.0	2.0	1.3	1.0	2.7	1.0	1.4	16.8	1.9	1.7	9.0	49.6	62.8	157.7
							Total								356605.6

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Brazil	1933.3	5181.3	7272.5	9699.9	8142.7	9060.5	8431.6	8933.9	10390.8	11338.0	10968.6	11035.7	9488.5	111877.4
Chile	929.7	1641.5	3766.7	3750.9	3480.2	4809.0	5431.4	6193.9	5613.2	5731.4	3914.3	4196.0	3963.4	53421.4
Uruguay	3517.1	4352.9	0.0	0.0	0.0	4700.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12571.0
Côte d'Ivoire	3017.6	1799.4	1421.4	1190.0	1042.9	640.3	545.8	393.8	173.1	190.8	162.7	92.0	138.8	10808.4
Indonesia	808.5	1073.8	1028.1	364.2	284.5	405.2	483.7	748.7	412.7	523.2	433.9	468.3	781.5	7816.4
Madagascar	552.3	2113.1	535.8	292.4	182.9	179.6	81.2	46.0	3.8	0.0	0.0	0.0	0.0	3987.2
Ghana	489.6	374.2	325.3	365.2	163.4	155.0	275.7	398.1	396.4	264.7	94.7	163.0	167.5	3632.9
Malaysia	5.0	96.6	108.7	78.9	138.9	116.4	154.2	183.1	164.8	599.0	236.2	254.8	339.9	2476.5
Nicaragua	1289.8	76.5	22.8	5.0	8.5	35.3	16.0	23.1	8.1	0.0	0.0	0.0	0.0	1485.2
Congo	76.0	208.4	154.2	166.5	262.6	320.3	100.2	36.9	46.3	25.2	0.0	0.0	0.0	1396.8
Turkey	81.9	123.9	119.7	130.3	89.9	71.4	62.0	50.5	57.5	47.8	59.4	89.2	183.1	1166.6
Others	522.4	624.0	781.6	697.0	504.1	474.8	660.9	621.1	447.0	643.6	505.3	489.0	523.9	7494.8
						То	tal							52835.7

Annex 15 – Deforestation risk (hectares) imported by the European Union associated with the trade of wood products between 2005 and 2017, considering the top 5 countries for each year of analysis