



ASSESSING TRACEABILITY, MONITORING AND SUSTAINABILITY INITIATIVES IN KEY SOFT COMMODITIES

MAPPING, CATEGORIZATION AND RECOMMENDATIONS FOCUSING ON EUDR COMPLIANCE

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THE TROPICAL FOREST ALLIANCE (TFA)

The Tropical Forest Alliance is a multi-stakeholder partnership platform initiated to support the implementation of private sector commitments to remove deforestation from palm oil, beef, soy, cocoa and pulp and paper supply chains. Hosted by the World Economic Forum, our 170+ alliance partners include companies, government entities, civil society, Indigenous Peoples, local communities and international organizations. With our partners, TFA works to mobilize collective action to advance the world's transition to deforestation-free commodity production.

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PREFERRED BY NATURE

Preferred by Nature is an international, mission-driven non-profit organization which has been actively involved in sustainable forest management and protection since 1994. It is closely tracking all forest-related regulations and converting it into operational, open-source standards and guides. As an approved Monitoring Organization for the EU Timber Regulation (EUTR), Preferred by Nature leverages more than 15 years of EUTR experience in pursuit of a comparable level of expertise for the EU Deforestation Regulation (EUDR). Additionally, Preferred by Nature actively participates in certification schemes and contributes to ISEAL, an international organization that sets best practice requirements for sustainable certification schemes. In addition to activities designed to improve and strengthen certification systems, Preferred by Nature staff is verifying and certifying a variety of globally recognized certification schemes. Furthermore, Preferred by Nature also implements on-the-ground projects in direct contact with both smallholder producers and their ultimate buyers.

Disclaimer: To develop this report, the Tropical Forest Alliance (TFA) commissioned Preferred by Nature to analyse publicly available information on traceability and monitoring systems in palm oil, cocoa, soy and cattle. While every effort has been made to ensure that the content of this report is up-to-date and accurate, errors and omissions may occur. The report is provided on an 'as is' basis and is not intended as a substitute for the reader's own due diligence and inquiry.

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ACRONYMS AND ABBREVIATIONS

ARS-1000	African Organization for Standardisation's Standard for Sustainable Cocoa	
ASD	Action for Sustainable Derivatives	
CAR	Cadastro Ambiental Rural/Rural Land Registry	
CFI	Cocoa & Forests Initiative	
CoC	Chain of custody	
CTS	Cocoa traceability system	
DCF	Deforestation and conversion free	
EU	European Union	
EUCSDDD	EU Corporate Sustainability Due Diligence Directive	
EUDR European Union Deforestation Regulation		
EUTR	European Union Timber Regulation	
FEFAC	The European Feed Manufacturers' Federation	
FPIC	Free, Prior and Informed Consent	
GFW	Global Forest Watch	
GHG	Greenhouse gases	
GIS	Geographic information system	
GTA	Guia de Trânsito Animal/Animal tracking guide	
GTFI	Indirect Suppliers Working Group for Brazilian Ranching	
HCS	High Carbon Stock	
HCV	High Conservation Value	
ISCO	Initiative on Sustainable Cocoa	
ISPO	Indonesian Sustainable Palm Oil	

LWG	Leather Working Group	
MSPO	Malaysian Sustainable Palm Oil	
NDPE	No Deforestation, No Peat and No Exploitation	
NGOs	Non-governmental organizations	
NWF	National Wildlife Fund	
POCG	Palm Oil Collaboration Group	
POTC	Palm Oil Transparency Coalition	
RSPO	Roundtable on Sustainable Palm Oil	
RTRS	Round Table on Responsible Soy	
SBTN	Science Based Targets Network	
SEEG	Greenhouse Gas Emissions Estimation System	
SISBOV	Sistema Brasileiro de Identificação Individual de Bovinos e Búfalos/ Brazilian Cattle and Buffalo Individual Identification System	
SMEs	Small and micro enterprises	
TCC	Traceability Certificate of Compliance	
TFA	Tropical Forest Alliance	
TNC	The Nature Conservancy	
VISEC	Vision Sectorial del Gran Chaco Argentino	
WBCSD	World Business Council for Sustainable Development	
WRI	World Resources Institute	
ZSL	Zoological Society of London	

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EXECUTIVE SUMMARY

Different global responses have emerged over the past decades to address illegal logging and deforestation. This includes multi-stakeholders' declarations and commitments, the development of private certifications, international and bilateral agreements, as well as demand-side measures. Within the latter category, the recent EU Deforestation Regulation (EUDR) is spearheading a movement requiring advanced due diligence systems from private companies trading in forest risk commodities, and increased levels of visibility and information sharing across supply chains.

Among other requirements, the EUDR mandates the collection and sharing of information relating to the areas of production of commodities, their legal production, and the absence of deforestation. This exchange of information presents challenges and necessitates effective traceability systems as well as deforestation monitoring systems to be implemented.

At a time of imminent application of those EUDR requirements and given the short timeframe for compliance, it is extremely important to acknowledge the complementarity of those requirements with other approaches driven by producing countries, the private sector and other key stakeholders. With the objective of strengthening the development of robust due diligence systems within organizations in scope of the EUDR, as well as strengthening capacities from all stakeholders involved in the EUDR implementation (including the EU Commission and national competent authorities), this report takes stock of practical approaches which have been developed over time by stakeholders, and which might support compliance.

THIS REPORT FOCUSES ON FOUR EUDR SCOPE SOFT COMMODITIES WHICH ARE SOY, PALM OIL, CATTLE/BEEF, AND COCOA ACROSS CRITICAL REGIONS IN LATIN AMERICA, ASIA, AND AFRICA. This report focuses on four EUDR scope soft commodities which are soy, palm oil, cattle/beef, and cocoa across critical regions in Latin America, Asia, and Africa. It could very well be completed and complemented by similar information gathering on the other EUDR scope commodities (coffee, timber and rubber).

Even with a reduced commodity scope, the mapping exercise identified over 150 relevant tools and initiatives, which led to a proposed categorisation to facilitate knowledge building, assessment and comparisons of such tools:

CATEGORY	SUB-CATEGORY	
X	Sourcing and due diligence guidance	
	Collective commitments and roadmaps	
Support tools	Collaborative initiatives	
10010	Sustainability wide-scale assessments	
	Land ownership registries	
	Key single map products	
GIS datasets	Deforestation alert systems	
	Visualization and analyses tools	
Other datasets	Trade and transport datasets	
	Government systems	
	Third-party evaluation/ assurance systems	
Integrated	Multipartite systems	
systems	Company specific systems	
	Commercial tools	

This report offers a list of identified tools within each of the above categories, matching them with short descriptions drawn from publicly available sources of information (section 4).

Ten initiatives within the "integrated system" category have been selected and more extensively examined, delving into details concerning data management and specific EUDR data points such as geospatial data, traceability, legal coverage, and deforestation assessment (section 5). The selected systems are:

Palm Oil	rspo, ispo, mspo
کې کې	Visec, ProTerra, RTRS
Cattle	Selo Verde, Visipec
🗑 Сосоа	Rainforest Alliance, Ghana Cocoa Management System

These ten detailed system overviews constitute an initial step at building increased and streamlined visibility and knowledge on how they are relevant for EUDR compliance. We consider that it would be beneficial to extend standardized detailed descriptions to other relevant systems, and develop more in-depth, extended benchmarks for systems relevant to the EUDR.

Building upon the mapping, categorisation and description exercise, this report also offers a short analytical perspective categorised by type of tool and commodity (section 2). Support tools do not provide information that can directly be used as evidence for EUDR implementation, but they can offer important insight into an initial risk evaluation of supply chains.

THE REPORT INCLUDES SOME KEY RECOMMENDATIONS THAT ARE ESSENTIAL FOR ADDRESSING CHALLENGES POSED BY THE EUDR, AIMING TO STRENGTHEN SYNERGIES BETWEEN THE REGULATORY APPROACH AND OTHER ONGOING INITIATIVES ADDRESSING DEFORESTATION



Datasets will further provide actionable information, which can be used to evidence compliance with EUDR, but they are usually only covering specific aspects of EUDR requirements. Integrated systems offer more advanced possibilities to collect, manage and share relevant supply chain information.

However, the important level of complexity, specificity and technicity of those systems is precisely what makes them difficult to compare and assess, in order to plug them into due diligence systems. Each commodity covered and producing regions also present important levels of specificities in terms of existing tools.

Finally, the report includes some key recommendations that are essential for addressing challenges posed by the EUDR, aiming to strengthen synergies between the regulatory approach and other ongoing initiatives addressing deforestation and unsustainable practices in global commodity supply chains (section 3). The findings underscore the importance of expanding descriptions and establishing deeper benchmarks for EUDR-relevant systems to enhance their understanding and comparability. Leveraging existing initiatives effectively is key to supporting EUDR compliance, promoting industry-wide best practices, and driving strategic enhancements across supply chains.

BACKGROUND

COMMODITIES COVERED BY THIS REPORT

PALM OIL, found in a myriad of products, is sourced from oil palm trees, with Indonesia and Malaysia leading global production. The expansion of palm oil plantations has driven deforestation in tropical regions, endangering biodiversity and increasing greenhouse gas emissions. Efforts towards sustainable palm oil production aim to mitigate these impacts, though challenges in effectiveness and uptake persist.



SOY stands as a pivotal agricultural commodity, serving essential roles in both food and industrial sectors. Notably cultivated in the United States, Brazil, and Argentina, soybeans are

primarily used for livestock feed, cooking oil, and biodiesel production. However, its cultivation, especially in Brazil and Argentina, has been linked to significant deforestation, posing environmental challenges such as biodiversity loss, ecosystem disruption and conversion, as well as climate change impacts.

CATTLE farming significantly influences global agriculture, with major beef production in the United States, Brazil, and other regions. In Brazil, beef production is a notable cause of Amazon deforestation, impacting biodiversity and contributing to climate change. Efforts to promote sustainable farming and reduce deforestation impacts face challenges in meeting global beef demand while conserving the environment.

COCOA production, crucial for chocolate and confections, is primarily based in West Africa, with Côte d'Ivoire and Ghana as leading producers. The expansion of cocoa plantations has led to deforestation and social issues. Sustainable cocoa initiatives aim to promote environmentally friendly practices and improve farmer livelihoods, yet achieving sustainability in cocoa production remains a complex challenge.



GLOBAL RESPONSE TO DEFORESTATION AND SUSTAINABILITY ISSUES

Concerns about the linkages between deforestation, illegal and unsustainable practices and the production of commodities covered by this report are not new and did not arise solely with this new EU Regulation.

Since the 1990s, different global responses emerged, including multi-stakeholder declarations and commitments (such as the New York Declaration on Forests), more detailed zero-deforestation commitments by key stakeholders, the development of private certifications, international agreements (focusing on climate and biodiversity), bilateral trade agreements (such as the Voluntary Partnership Agreement between the EU and timber producing countries), as well as civil-society led awareness raising campaigns.

Demand-side measures aim to reduce the demand for products that do or might contribute to deforestation and unsustainable practices. This includes the enactment and enforcement of specific regulations, particularly in key consumer markets. Regulatory approaches to address deforestation and sustainability challenges are therefore one piece of a larger puzzle serving as one tool among a range of responses.

The recent EU Deforestation Regulation (EUDR) is just one of several upcoming regulations addressing related topics, such as the EU Corporate Sustainability Due Diligence Directive (EUCSDDD), and also affecting consumer markets beyond the EU.

EUDR

The EUDR represents a milestone in the evolution from voluntary to mandatory market driven parameters. The official text for the EUDR agreed by the EU Parliament and the EU Council was adopted on May 31 st, 2023. According to the regulation parameters, implementation and enforcement will commence for most businesses 18 months after publication (January 2025), and for small and micro enterprises (SMEs) 24 months after publication (July 2025). Seven different commodities and derived products are in scope: cocoa, coffee, cattle, rubber, timber, soy and palm oil.

The Regulation essentially only permits the importation, trade and export of commodities and products which are deforestation free (after a December 2020 cut-off date) and have been produced legally.

To this end, EU operators and traders in scope must implement an adequate due diligence system. Such systems must include the collection of relevant information (which includes the systematic identification of the plots of land where raw commodities are produced), risk assessment, and risk mitigation where necessary. Operators and traders are also required to issue due diligence statements and regularly report publicly on the due diligence systems they have in place. EU Member States will designate competent authorities to perform controls and ensure compliance.

THE EUDR REPRESENTS A MILESTONE IN THE EVOLUTION FROM VOLUNTARY TO MANDATORY MARKET DRIVEN PARAMETERS.



INTRODUCTION

The newly adopted EU Deforestation Regulation (EUDR) elevates corporate sustainability goals to a new level, extending far beyond the scope of its predecessor, the EU Timber Regulation (EUTR), which was limited to the timber sector. Unlike the EUTR, the EUDR broadens its reach to encompass multiple commodities and derived products¹, introducing more rigorous requirements for traceability as well as monitoring of deforestation.

A key aspect of the legislation is indeed its demand for the geolocation of all plots where commodities are grown and harvested, necessitating highly effective traceability systems to be implemented by companies. Companies (operators and traders) within scope must proactively declare geolocation information to the EU when submitting due diligence statements for imports to or exports from the market. The geolocation information collected is intended to verify forest status and provide evidence that the commodities are deforestation-free.

The EUDR also requires the collection of verifiable evidence demonstrating that commodities have been produced in compliance with relevant regulations in the country of production. This involves using a riskbased approach to determine appropriate document collection or other risk mitigation measures for the eight legal categories laid out in the EUDR definition of applicable legislation².

Implementing these requirements means collecting information on production, including geolocation data, at the point where commodities are grown. This information needs to be further transmitted through each entity of the supply chain, matching the physical movements (aggregation, disaggregation) of products. This requires functional and advanced traceability systems and cooperation between supply chain entities. However, this exchange of information presents challenges, especially considering the need



to protect sensitive data and the inherent complexity of the supply chains associated with the targeted commodities. Other similar regulations in consumer markets³ are being developed and will likely participate in this movement requiring enhanced traceability and scrutiny into deforestation happening in commodity supply chains.

The need for these regulations is a reflection of the fact that previous responses have so far not been sufficient to drive the necessary changes to address deforestation and unsustainable practices at scale. However, it is important to acknowledge the complementarity of regulatory requirements in consumer markets with other approaches driven by producing countries, the private sector and other key stakeholders. There is a deep need to drive transformation of practices as well as compliance with regulatory frameworks on the same front – they should go hand in hand, and one should not compromise the other. In addition, the EUDR itself can largely be complemented by further policies aiming at enabling practical implementation.

Cocoa, soy, palm oil, rubber, timber, coffee and cattle. Derived products under scope are listed in Annex I of the EUDR, based on their HS codes.
 Article 2(40) of the EUDR.

³ Notably in the UK and USA

This report aims to take stock of progress made and practical approaches which have been developed over time by stakeholders, and which are very diverse across commodities and producing regions. At a time of imminent application of EUDR requirements and given the short timeframe provided by regulators to enact changes needed for compliance, it is extremely important to reflect back on what already exists and might support compliance, and how it can do so.

It is widely acknowledged that very few systems are fully aligned with EUDR requirements and are sufficient to ensure compliance. However, even partly aligned mechanisms can be tremendously helpful and be key components of the necessary due diligence systems. Even if they address only part of the requirements, it means that organizations relying on them only have to address remaining gaps. For stakeholders to make the most appropriate and efficient of those tools in the context of EUDR, it is therefore important to build objective, detailed and honest pictures of what those systems can achieve, and where their limitations are. Efforts to consistently increase the level of understanding and knowledge of existing systems is still insufficient. A stronger level of awareness is all the more necessary since there is a very high number of relevant systems across EUDR scope commodities and across different producing regions, each with their own history and specificities.

It is also important that all concerned stakeholders involved share a similar and balanced understanding of supporting systems. With the objective of strengthening (1) the development of robust due diligence systems within organizations in scope of the EUDR, (2) a better understanding of the EU Commission, EU Member States and competent authorities for potential additional material (guidance, implementing acts, revisions, etc.) and (3) credible, expert controls from EU competent authorities, this study aims at drawing a comprehensive, objective and wide picture of existing initiatives.

THIS REPORT AIMS TO TAKE STOCK OF PROGRESS MADE AND PRACTICAL APPROACHES WHICH HAVE BEEN DEVELOPED OVER TIME BY STAKEHOLDERS, AND WHICH ARE VERY DIVERSE ACROSS COMMODITIES AND PRODUCING REGIONS.



The study draws on in-depth descriptions and assessments already conducted by key stakeholders, in particular the work of WRI under the Forest Data Partnership⁴. It aims to provide an additional, complementary piece in categorising existing tools and initiatives, guiding stakeholders involved in EUDR implementation on how to consider and compare them.

This report focuses on four EUDR scope soft commodities which are soy, palm oil, cattle/beef, and cocoa across critical regions in Latin America, Asia, and Africa. It could very well be completed and complemented by similar information gathering on coffee, timber and rubber. Furthermore, the mapping has been as exhaustive as possible, but it is possible that other relevant tools may be added to the list. The categorisation of tools and initiatives is also considered as a proposition, which could further be refined through a collective discussion. Given the number of relevant initiatives identified, those have been provided with short descriptions. A selection (10) of them have also been further detailed in view of EUDR requirements - these more detailed descriptions, however, do not constitute in-depth benchmarks.

Building upon the mapping and categorisation exercise, this report also offers a short analytical perspective categorised by type of tool and commodity, as well as some key recommendations that are essential for addressing challenges posed by the EUDR, aiming to strengthen synergies between the regulatory approach and other ongoing initiatives addressing deforestation and unsustainable practices in global commodity supply chains.

4 WRI - Fripp, E. et al. (2023). Traceability and transparency in supply chains for agricultural and forest commodities: A review of success factors and enabling conditions to improve resource use and reduce forest loss. Appendix E..

2 METHODOLOGY

2.1. MAPPING AND CATEGORISATION

In order to gain a comprehensive understanding of current industry and stakeholders' practices, the first step of this study has been to develop a comprehensive list of knowledge products, expertise, information, approaches, positions, commitments, and functional supply chain specific tools allowing supply chain visibility (supply chain mapping or traceability), supply chain sustainability management (legality, certificates, ESG risks, etc.) and deforestation monitoring. Relevant programs and tools targeted are those either serving similar objectives and purpose of the EUDR (putting a halt to deforestation, ensuring legal and more sustainable production and trade of relevant commodities) and/or directly relevant to its practical implementation (in particular, in terms of supply chain data). Identified tools have been matched with short descriptions and key points on their nature and operationalization, drawing on open-source information, mostly from the initiatives themselves (own websites) as well as relevant public reports.

Given the large number of relevant tools (more than 150 tools were identified for the four targeted commodities), they have also been grouped, in an attempt to draw meaningful categories and sub-categories. The categorization is intended to support a clear understanding of the nature, strengths, potential use and limitations of those tools vis à vis EUDR needs, to drive better visibility, use, and synergies. The table below highlights the proposed nomenclature of tools and initiatives on traceability, forest monitoring and sustainability monitoring, which can support EUDR implementation.

THE FIRST STEP OF THIS STUDY HAS BEEN TO DEVELOP A COMPREHENSIVE LIST OF KNOWLEDGE PRODUCTS



PROPOSED NOMENCLATURE OF RELEVANT APPROACHES

CATEGORY	SUB-CATEGORY
	Sourcing and due diligence guidance Documents providing key overarching elements and practices to support companies building and adjusting their sourcing practices.
Support tools Support tools do not provide information that can directly be used as evidence for EUDR implementation, but they can offer important insight into an initial risk evaluation of supply chains	Collective commitments and roadmaps Clear responsible sourcing commitments taken by key stakeholders.
	Collaborative initiatives Ongoing multi-stakeholder forums, driving awareness-raising, alignment and synergies.
	Sustainability wide-scale assessments Assessment of countries, commodities and/or private sector organizations in relation to sustainability risks.
	Land ownership registries Official records that document the ownership, boundaries, and valuation of land parcels. These registries serve as a legal basis for property transactions, ensuring clarity and security in land ownership and use.
GIS Datasets Datasets provide actionable information,	Key single map products Specialised maps designed to provide detailed information or insights on a specific topic or area, focusing on a singular aspect such as geography, demographics, or thematic data.
that can be used to evidence compliance with EUDR. However, they are not sufficient/ complete enough to comply with all EUDR requirements.	Deforestation alert systems Technological solutions designed to monitor and report changes in forest cover in near real-time, aiming to identify and prevent illegal deforestation activities.
	Visualization and analyses tools Digital platforms that allow users to interact with and visualize geographical data through customizable maps, incorporating multiple layers of information for in-depth analysis.
Other datasets Datasets provide actionable information but are not sufficient to comply with all EUDR requirements.	Trade and transport datasets Data on global commerce and transportation networks, including transactions, trade volumes, shipping routes, and logistics details.
	Government systems Transaction tracking or broader certification systems developed and managed by governments.
ركائح	Third-party evaluation/assurance systems Independent verification schemes assessing the compliance, quality, or performance of organizations, products, or processes against predefined standards or criteria.
کر ج Integrated systems Systems combining various processes, tools,	Multipartite systems Systems governed by collaborations among multiple stakeholders and including concrete sustainability data collection and monitoring.
and methodologies into operational output.	Company specific systems Systems developed and implemented by supply chain actors, for themselves and their buyers/partners.
	Commercial tools Dedicated digital tools developed by commercial organizations to facilitate traceability, forest monitoring and sustainability monitoring tasks.

2.2. DETAILED DESCRIPTION OF A SELECTION OF SYSTEMS

The second step of the study involved providing a more detailed description of a selected set of tools, in particular in view of EUDR requirements. Ten initiatives within the "integrated system" category have been selected and more extensively examined. Those are particularly advanced in terms of data collection, verification and assessment relevant to EUDR, and have been selected with the objective of covering different commodities and sub-categories of integrated systems. The selected systems are:

Palm Oil	rspo, ispo, mspo	
ظ Soy	Visec, ProTerra, RTRS	
Cattle	Selo Verde, Visipec	
🗑 Сосоа	Rainforest Alliance, Ghana Cocoa Management System	

Detailed descriptions have been organized into broad EUDR relevant categories. These categories not only provide an overall description but also delve into details concerning data management, data sharing, and specific EUDR data points such as geospatial data, traceability, legal coverage, and deforestation assessment.

These descriptions are based on open-source information published by the system owners as well as relevant reports describing and assessing them. Additionally, they stem from in-depth interviews conducted with selected stakeholders, including systems' owners themselves. Research and interviews have been complemented by the Tropical Forest Alliance and its members, who provided valuable insights through exchanges and discussions.

These detailed descriptions do not constitute in-depth benchmarks or audits of the proper functioning of those systems. They constitute an initial step at building increased and streamlined visibility and knowledge of those systems. We consider that it would be beneficial to: (1) extend standardized detailed descriptions to other relevant systems, and (2) develop more in-depth, extended benchmarks for systems relevant to the EUDR (e.g. in-depth comparisons of systems requirements against EUDR requirement, highlighting where those match and allowing to determine where and how the use of specific systems can support the collection of information, risk assessment and risk mitigation that must be performed under the EUDR).

2.3. HIGHLIGHTS AND RECOMMENDATIONS

Building on the mapping, categorisation, detailed system descriptions and stakeholders' interviews conducted, this study provides highlights observed both by type of initiative, as well as by commodity. This analytical section should support understanding the overall picture of existing traceability, forest monitoring and sustainability monitoring initiatives, and to which extent they could support EUDR compliance.

Finally, a series of recommendations exploring how to make the best use of existing initiatives and approaches for EUDR compliance has been developed.



3 HIGHLIGHTS

This section is provides highlights based on the extensive mapping and categorisation undertaken. It puts forward key elements observed and draws an overall picture.

3.1. HIGHLIGHTS BY TOOL CATEGORY

This study's mapping and categorisation allowed to highlight the existence of a wide array of **support tools** which can assist organizations in strengthening their responsible sourcing practices. Beyond their value in driving collective alignment and changes, such support tools may play an interesting role in the design and implementation of due diligence practices.

It appears that **sourcing and due diligence guidance** are specifically drafted, so that companies can build on top of existing, generic best practice. There is some existing generic due diligence guidance, as well as commodity-specific due diligence guidance. They tend to highlight similar concepts, steps and orientations. Some of those guidelines may be better tailored for specific contexts or organizations.

Commitments, collaborative initiatives and widescale assessment results may be plugged into a due diligence process as they bring high-level information on a supply chain profile. While those assessments, lists and ratings are not sufficient to indicate compliance with EUDR requirements, they may bring important information to guide subsequent analyses and risk mitigation actions.

For instance, verifying whether suppliers and sub-suppliers are part of collective commitments and collaborative initiatives may give some insight into their own approach to sustainability. Their score in company specific assessments of sustainability practices can also guide decision-making. It is however important to consider that commitments and participation in initiatives indicate a willingness to improve sustainable practices, not a way to verify concrete implementation, even if companies increasingly engage in public reporting under those initiatives. Public sustainability reporting can also provide company specific information, but this information is usually aggregated and not necessarily systematically verified.

It is noteworthy that there is a high number of different commitments in the soy sector, focused on different actors and producing regions/countries. On the other hand, commitments for the cocoa sector are quite aligned under the Cocoa and Forest Initiative umbrella.

It is also worth noting that there are not many global, comprehensive country/commodity standardized assessments of sustainability principles. While still in development in terms of content and commodity coverage, Preferred by Nature's Sourcing Hub is aligned with the legal categories of the EUDR.



verifiable information that can be used as evidence of compliance with EUDR requirements. In particular, there are several types of geospatial datasets that can support implementation of the obligation to collect the geolocation of plots of land where commodities are produced (article 9(d) of the EUDR) in order to subsequently evidence the absence of deforestation after the cut-off date (article 9(g) of the EUDR), and/or to evidence that the commodity has been produced in accordance with the relevant legislation (article 9(h)), which includes land use rights (article 2(40)(a)).

This study highlights a number of land ownership registries, where information is publicly available. These are extremely useful as they provide a central, official point of reference and identifiers for plots. Official, publicly available registries should in principle avoid a duplication of resources engaged independently by the private sector to do its own farm mapping. However, to date, there are few publicly available land-use registries, with the most notable and widely used ones being the Brazilian and Argentinian registries (respectively CAR and RENSPA). Both are used by sustainability initiatives, particularly in the soy and cattle sectors. There are however some concerns as to the accuracy of information, as those registries are heavily relying on self-declared information and are not running systematic verifications.

Ghana and Côte d'Ivoire are currently mapping their cocoa farmers and claim to have almost completed this process, although the modalities of access to those data and level of accuracy is not yet entirely clear. Indonesia is also engaged in a process of country-wide land-ownership mapping. Such country-wide mapping process usually takes considerable time and resources.

Many **single map products** relevant to forest, forest cover, vegetation and agricultural areas which can be leveraged for EUDR compliance have also been identified. There is a very large number of global, high quality, publicly available datasets that can be relevant. Only those perceived as the most relevant for demonstrating compliance with EUDR requirements

THIS STUDY HIGHLIGHTS A NUMBER OF LAND OWNERSHIP REGISTRIES, WHERE INFORMATION IS PUBLICLY AVAILABLE. have been listed in this report. Relevant maps are those that support the identification of the absence of forest, aligning with the EUDR forest definition and/ or support the identification of the presence of agricultural crops or the legal status of land set aside for agricultural crops. Each map appears to have its own specificities and limitations, sometimes heavily documented in peer-reviews and reports. There are also some detailed, country or region-specific maps, which tend to be more accurate than global products. Note that GIS skills and GIS interface or software are needed for users to directly manipulate and interpret those maps.

Deforestation alert systems are more dynamic systems intended to report changes to forest cover in near-real time, to be able to quickly address cases of deforestation. Several organizations have also developed **dedicated visualization and GIS analyses tools,** with built-in functionalities and maps specific to monitoring forests. This study highlights that there are a lot of global alert systems and visualization platforms that are publicly and freely available. Many alert systems and visualization tools have also been developed specifically for Latin America, in particular to monitor the Amazon rainforest.



Available **datasets on trade and transport** may also be used in the context of EUDR compliance, with the objective to contribute to or complement supply chain mapping and traceability systems. However, it appears that there are far fewer existing and publicly available trade and transport datasets than geospatial datasets. Trade data may either not be collected in the first place or may not be digitalized or made available by authorities.

Trase is a notable example of a trade and transport dataset. It is providing useful trade data to users, by rebuilding global supply chains based on available trade and custom data, via a science-based, publicly available methodology. It displays an accurate, but not exact, depiction of global commodity flows between producing countries/regions and consuming markets. Other relevant and available datasets are registries of supply chain entities (e.g. **Universal Mill List** in the palm oil sector) and country-specific transport data. Interestingly, some trade data and associated systems developed initially for sanitary reasons are now increasingly used/repurposed for sustainability objectives.

This is particularly evident in the cattle sector in Latin America, where the movement of cattle has been historically controlled by authorities primarily for sanitary reasons. For instance, Brazil's Guia de Trânsito Animal (GTA) (animal tracking guide) is now widely used in sustainability initiatives in the cattle sector. Where data from transactions or transit activities is available and up to date, it can be directly used within due diligence systems to identify relevant supply chain and the origin of products traded.

Lastly, different types of more **integrated systems**, which are already collecting, managing and sharing supply chain information relevant to EUDR implementation, have been identified. These are more complex tools and processes that allow multiple actors to manage specific data and information.

SOME TRADE DATA AND ASSOCIATED SYSTEMS DEVELOPED INITIALLY FOR SANITARY REASONS ARE NOW INCREASINGLY USED/ REPURPOSED FOR SUSTAINABILITY OBJECTIVES. They can be coordinated by different types of actors: national authorities for government systems, independent specialist organizations for third-party evaluation or assurance systems, coalitions of actors for multipartite systems, companies for their own systems. Commercial entities are also increasingly offering relevant integrated tools. To better highlight synergies with the EUDR, this report includes detailed descriptions of some of the identified integrated systems.

There are a few existing **governmental systems** which are relevant to this study. One sub-type are government tracking systems, which make it mandatory for actors trading some specific goods to declare and track physical movements and/or sales of products within the national territory. Within the scope commodities of this study, those tracking systems are mostly found in the cattle sector in Latin America. They have indeed been initially developed for sanitary purposes.





This also explains why some are restricted to supply chains destined to be exported to global markets (e.g. the Brazilian Cattle and Buffalo Individual Identification System, **SISBOV**, in Brazil, which is only mandatory for exports to the EU). Cocoa producing countries are also increasingly developing national traceability systems, which go hand in hand with broader government-backed certification system (see below). It is worth noting that there are also a lot of national tracking or traceability systems which have been developed in the timber sector (out of scope of this study), to fight against illegal logging (Romania, Russia, Brazil, Gabon, Cameroon, etc.).

Going beyond traceability systems, some governments have also developed full-fledged certification systems, which are usually mandatory for all actors of a given supply chain. In the palm oil sector, the two leading global producers, Indonesia⁵ and Malaysia, have developed their own certification systems for more than a decade (respectively in 2011 and 2013). They are well established and cover a broad range of sustainability criteria. They include segregated and mass balance models.

More recently, some Latin American countries have tried to develop national certification systems for the cattle sector, with clear objective of ensuring a sustainable and deforestation-free production. Those are rather meant to be voluntary and remain to be fully developed and scaled up within the national industry. In the cocoa sector, there are also recent developments in Africa, where the African Organization for Standardisation's standard for sustainable cocoa (ARS-1000) is being endorsed by Côte d'Ivoire and Ghana which have recently developed their nationally adjusted operational guidelines for implementation.

Third-party verification or assurance systems are usually product-based systems, aiming at attaching sustainability labels or claims to products sold to end consumers. They usually have one or several chain of custody models, which:

- may or may not ensure physical traceability;
- may be more or less digitalized; and
- may allow different levels of transparency among supply chain actors (e.g. some schemes are not centrally recording information on certified volumes being traded and are not systematically transferring origin data).

As mass balance chain of custody models do not maintain physical traceability of products, they have very limited applicability to EUDR requirements unless the share of non-certified products mixed with certified products is traceable and verified as legal and deforestation-free. Beyond their potential utility to ensure traceability, third-party schemes also have their own scope about sustainability topics and legal criteria being assessed. Some are explicitly addressing deforestation.

All have their own specificities, and their usefulness for EUDR implementation must be evaluated both in terms of scope (legality and deforestation monitoring) and in terms of robustness of the assurance systems (who conducts verifications or audits, how and when, how are conflicts of interest managed, how are certificates allocated, how is potential fraud managed, etc.).

Specific commodities usually have a leading scheme: for instance, Rainforest Alliance for cocoa, the Roundtable for Sustainable Palm Oil (RSPO) for palm oil. Soy and cattle are not well covered by functional and widely accepted schemes, which also translate into different market shares: Rainforest Alliance claims to cover 46% of exports from Côte d'Ivoire and 33% of exports from Ghana⁶.

5 Indonesia also has a mandatory, fully functional certification system in the timber sector (out of scope of this study), the SVLK assurance system, which is tied up to the VPA agreement with the European Union and the ability of Indonesia to issue FLEGT licences to timber exports to the EU.

- 6 Rainforest Alliance Cocoa certification data report, 2022. Available <u>here</u>.

On the contrary, only very small and limited volumes of soy are covered by **RTRS** and **ProTerra** certification (an estimation is 2% of market share). Cattle does not have a leading product-based certification system. This also reflects different schemes' readiness and willingness to address EUDR requirements, for instance through adjustments or add-on modules.

The study also identified **multipartite systems** that do not necessarily qualify as certification or verification systems led by independent third parties, but rather go beyond collaborative initiatives simply aiming at driving alignment and cooperation. These multipartite verification systems also implement the collection, assessment and/or verification of supply-chain specific data. They usually include collective supply chain mapping or traceability, monitoring deforestation in identified producing areas, and monitoring of social and environmental issues (e.g. human rights, protected areas, etc.). They tend to rely on self-reported information collection, and they include various levels of auditing and verification.

Latin America appears to be a key region where several of such systems have been developed by stakeholders. There are three different ones for cattle in Brazil (**Beef on track Monitoring Protocol**, **Visipec** and the **Cerrado Monitoring Protocol**).

In Argentina, <u>Visec</u> has succeeded in generating a high level of engagement from the whole country industry. It has gained a level of support from the government and is now extending to other commodities and countries (Paraguay). In the palm oil sector, a key instrument is the Implementation Reporting Framework on <u>NDPE</u> (No Deforestation, No Peat and No Exploitation) commitments. Similarly to third-party schemes, multipartite systems can be relied on insofar as they have robust procedures to implement physical traceability, legal coverage and deforestation monitoring, as well as robust verification practices in relation to the integrity of data collected.

MULTIPARTITE VERIFICATION SYSTEMS ALSO IMPLEMENT THE COLLECTION, ASSESSMENT AND/ OR VERIFICATION OF SUPPLY-CHAIN SPECIFIC DATA. Finally, there is also a growing trend for companies to develop **their own wide ranging sustainability** programs including strong traceability and data collection components. Some of these programs may even qualify as certification systems, if they include specific standards and verification processes. These programs are usually developed by large multinational commodity traders or manufacturers. They tend to include advanced traceability mechanisms for all or part of the company's sourced products, as well as collection and assessment of a wide range of sustainability metrics and monitoring of deforestation.



Company specific certification has especially boomed in the soy sector (no fewer than <u>23 standards</u> have been approved by The European Feed Manufacturers' Federation, FEFAC, against its <u>Soy Sourcing</u> <u>Guidelines</u>). Even with a strong third-party certification in place (e.g. Rainforest Alliance Certified), the cocoa sector has also developed several dedicated programs offering increased sustainability guarantees to buyers.

Organizations willing to rely on such company own systems must ensure that they implement physical traceability and allow the credible collection of zero-deforestation and legal production evidence. The overall level of transparency and independent verifications of the system are key for an adequate use within a EUDR due diligence system.

Lastly, it must be acknowledged that there are many **commercial digital systems** available to support actors in implementing supply chain traceability (or at least mapping), forest monitoring and legality/sustainability monitoring – or a combination of those activities. This is a very competitive sector, with a profusion of commercial offers ⁷, each with their own specificities. They can be very useful in their ability to be tailored to very specific needs and industries.

However, there are also growing concerns over the duplication of data resulting from the use of private systems, especially regarding the collection of farm identification and geolocation data, as well as concerns on the confidentiality and security of this data.

IT MUST BE ACKNOWLEDGED THAT THERE ARE MANY COMMERCIAL DIGITAL SYSTEMS AVAILABLE TO SUPPORT ACTORS IN IMPLEMENTING SUPPLY CHAIN TRACEABILITY (OR AT LEAST MAPPING), FOREST MONITORING AND LEGALITY/ SUSTAINABILITY MONITORING Stakeholders are also increasingly questioning the commercial valorisation of farmer's data by large supply chain organizations that have financed mapping exercise. In terms of forest monitoring, the use of private systems raises questions about the lack of availability and transparency of methodologies and tools employed, which can therefore not be easily assessed or compared.

On the other hand, private commercial systems, when well implemented in a specific sector, can also support the implementation of cost-effective methods, and support to some extent the dialogue and the sharing of resources between supply chain companies in need of the same data points.



7 Preferred by Nature has identified over 120 commercial solutions around traceability and ESG monitoring, and over 35 solutions oriented at forest monitoring.

3.2. COMMODITY HIGHLIGHTS



PALM OIL

The palm oil sector has two leading producing countries in Asia (Indonesia, Malaysia), and has historically been under a high level of scrutiny for its strong impact on deforestation, biodiversity loss and social issues. The following key elements can be derived from the mapping and categorisation exercise:

There is a leading, well established certification scheme, the **RSPO**, which offers a wide coverage of sustainability topics, alongside a robust auditing system. It offers different chain of custody models, including mass balance and credit, where the physical traceability of palm oil is not maintained through the supply chains. It is also actively seeking to address and align to EUDR requirements. Certification and trade data are strongly digitalized, through the palm trace platform, which is currently being replaced by a new version.

Governments of the two leading producing countries, Indonesia and Malaysia, have both also developed a national mandatory certification system for palm oil, which are now well established and functional, and are coexisting with the private scheme RSPO.

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There is a general high level of transparency in the palm oil sector. Information on certified concessions is publicly available, as well as information on most mills, through the <u>Universal Mill List</u>. There are also an important number of company assessments in the sector, for instance with <u>ZSL's Sustainability Policy</u> <u>Transparency Toolkit (SPOTT)</u> ratings.

The **NDPE Implementation Reporting Frame**work is also a key tool for companies (refineries) to report on their efforts to address deforestation and conversion. Developed under the Palm Oil Collaboration Group (**POCG**), this initiative is a step toward collecting and verifying relevant practices within supply chains.

THERE IS A LEADING, WELL ESTABLISHED CERTIFICATION SCHEME, THE RSPO, WHICH OFFERS A WIDE COVERAGE OF SUSTAINABILITY TOPICS, ALONGSIDE A ROBUST AUDITING SYSTEM Besides the <u>POCG</u>, there are quite a few other multilateral initiatives aiming at driving alignment and addressing sustainability issues <u>(Palm Oil Transparency Coalition</u>, <u>Sustainable Palm Oil Choice</u>, <u>Consumer Goods Forum Forest Positive Coalition</u>, <u>Action for sustainable derivatives</u>, etc.).

Despite a high level of collaboration and active national certification systems in place, commercial providers are also quite active in the palm oil sector and do offer services on mapping and managing palm oil plantations, transactional traceability for mills (e.g. Koltiva, Agridence), as well as forest monitoring (e.g. Palmoil.io).



8 Chain reaction research (November 2022). EU Deforestation Law: Traceability Viable in Brazilian Cattle and Soy Supply Chains.

🖻 SOY

This study allowed to highlight some specificities of the soy sector, mostly linked to production in Latin America, in particular Brazil and Argentina:

Third-party independent soy certification systems only have a very small market share (estimated around 2%), despite the fact that they do offer mass balance models, which is supposed to facilitate market uptake.

By comparison, a lot of large traders have developed their own certification systems, most of which are evaluated as credible under **FEFAC soy benchmark** (23 schemes approved in total). However, traders' certification also has limitation in terms of coverage of indirect sourcing.

There is also a wide range of collaborative initiatives and verification systems for soy produced in Latin America, especially in Brazil. The Amazon Soy Moratorium is a key instrument, which is deemed to have led to an important shift in producing practices, despite not necessarily implementing strict verification or audit procedures.

Among other notable initiatives, there is a verification protocol specific to the Brazilian State of Para, a stateled program in Mato Grosso, a collaborative initiative by traders centered around high-risk municipalities in Cerrado, and a multi-stakeholder system including civil society participation (**Soy on track**).

Those initiatives usually align on objectives, but do not necessarily address the "how" and let the private sector determine practical approaches for implementation. They also sometimes overlap (e.g. the <u>Amazon</u> <u>Soy Moratorium and the Green Protocol of</u> <u>Grains of Pará</u>). On the other hand, some have varying degrees of ambitions, which translate to different scope, geographical coverage, definitions and cut-off dates, etc.

In terms of practical implementation of commitments and roadmaps, a lot is being done by soy traders independently.

Private sector (traders) systems are much more advanced now in terms of traceability than certification systems like **<u>RTRS</u>** and **<u>ProTerra</u>**, which is somehow lowering their incentive to develop their own advanced digital platforms. All monitoring and verification systems in Brazil heavily rely on publicly available information, such as <u>CAR</u> (Cadastro Ambiental Rural) for the identification of farms, (although there are concerns on the lack of verification of CAR information ⁸), <u>GTA</u> documents where available, or lists of companies concerned with embargoes and slave labor. In terms of deforestation monitoring, there is a wide availability of different freely accessible tools specific to Brazil (e.g. <u>Prodes</u> <u>and Deter systems</u>).

In Argentina on the other hand, where environmental protection is centred around the Gran Chaco biome, the pre-competitive sector is much concentrated, and there is a leading multi-partite initiative, <u>Visec</u>, which has succeeded in gathering support from a wide range of stakeholders, including some support from the government. It includes ambitions of robust traceability and forest monitoring.



CATTLE

The cattle sector is also mostly tied to production from Brazil, Argentina and other Latin American countries. Key highlights that have emerged from this study are:

There are usually country-wide tracking systems for cattle transactions/transit, especially in Latin American countries and within their states. Initially, those have been developed for sanitary reasons but are now also being used to map and trace supply chains for sustainability objectives. A well-known example is the **GTA** system in Brazil, although the availability and transparency of GTA information is uneven across different Brazilian states.

Furthermore, the availability of GTA documentation, and similar systems in other countries, does not allow mapping indirect suppliers, as it only records the two parties to a specific transaction. They are not in themselves full-fledged traceability systems allowing sustainability information to travel with specific animals or batches of animals.

Particularly in Brazil, the sector is concentrating a very high level of initiatives and systems around traceability, deforestation issues and sustainability objectives. Each has its own history and specificities, in terms of state or biome targeted, engaged actor, objectives, etc.

This may however lead to potential confusion for stakeholders who are further in the supply chain and for regulators within consumer markets (e.g. EUDR competent authorities).

Existing functional traceability systems are usually limited in terms of supply chain coverage (they do now cover the whole supply chain from birthing establishments). They are also largely voluntary or focus on supply chains exporting beef products to regulated markets: this is the case of **SISBOV** in Brazil. Other voluntary initiatives available in Brazil are Selo Verde (State of Para), Beef on track, Cerrado Monitoring **Protocol** for cattle and **Visipec**.

THERE IS NO LEADING INDEPENDENT THIRD-PARTY PRODUCT **BASED CERTIFICATION SYSTEM FOR CATTLE. THE LEATHER WORKING GROUP** HAS SOME STANDARDS IN PLACE, BUT IT **IS AN ORGANIZATIONAL CERTIFICATION**

Issues around the lack of traceability for indirect sourcing is a key topic identified by stakeholders. In Brazil, it is tentatively addressed through the Indirect Suppliers Working Group for Brazilian Ranching (GTFI) and with the **Visipec** add-on system.

The tracking system in Uruguay for cattle is, on the other hand, hailed for being a very functional and robust traceability system.

There is no leading independent third-party productbased certification system for cattle. The Leather Working Group has some standards in place, but it is an organizational certification



9 For a good overview of this topic: FERN (2024). Assessment of the EU sus-10 good a initiative: looking back on the journey and to the road ahead.
 10 Rainforest Alliance Cocoa certification data report, 2022. Available here.

COCOA

With two leading producing countries worldwide (Côte d'Ivoire and Ghana), the cocoa sector also displays some specificities in terms of efforts implemented to improve sustainable practices and fight against deforestation:

The cocoa sector appears to have very strong multipartite collaborative forums. On the demand side, the **Cocoa & Forest Initiative** (link to their website) is gathering, since 2017, 36 leading private sector companies and the Ivorian and Ghanaian authorities. It has prompted the development of frameworks for actions, national implementation plans and company-specific action plans.

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On the demand-side, several European countries (Netherlands, Germany, Switzerland, France, Belgium) have developed initiatives on sustainable cocoa which have been coined as ISCOs (Initiatives on Sustainable Cocoa). In 2020, the EU launched the Sustainable Cocoa Initiative and organized a series of roundtable with key stakeholders (the Cocoa Talks).**?**

There is also a leading private certification mechanism in the cocoa sector, with the <u>Rainforest Alliance</u> <u>certification</u>, which claims to cover 66% of cocoa production from Côte d'Ivoire and 45% of market share for exports from Côte d'Ivoire and 30% for production and exports from Ghana ¹⁰.

Rainforest Alliance certification has robust traceability systems in place, although not all chain of custody models available are physical traceability. In practice, most of the certified cocoa in Côte d'Ivoire is under a segregated model up to the export point. Rainforest Alliance standards are covering a wide range of sustainability topics, including legal production and deforestation monitoring. It has developed a specific voluntary add-on module for EUDR compliance. **Fairtrade** is a smaller certification system with robust traceability and sustainability assessments, although it is more focussed on the protection of small producer organisations and agricultural workers in producing countries.

Ghana and Côte d'Ivoire authorities (Conseil Café-Cacao or CCC in Côte d'Ivoire and Cocobod in Ghana) are not necessarily supporting the development of private certification. They have endorsed and developed the <u>ARS-1000</u> standard to implement national mandatory certification on cocoa. This is complemented by the development of <u>ARS-1000</u> national implementing guidelines, as well as



management and traceability systems with associated digital tools and platforms. Côte d'Ivoire and Ghana are directly collaborating on advancing those via the Côte d'Ivoire Ghana Cocoa Initiative and its four working groups. Both countries claim to have nearly operational systems in place for <u>ARS-1000</u> certification of the sector country-wide.

Leading cocoa exporters and chocolate manufacturers, for their part, have developed strong private traceability systems, and have funded their own farmer data collection, including geospatial field boundaries. It appears that it may be challenging to share or merge this information afterward. There are also raising concerns around farm data sitting in several closed databases (including monetising farmers data and being unable to reconcile overall flows of cocoa to detect volumes coming from unidentified areas such as protected areas or neighbouring countries).

The space of collaborative initiatives and programs is much less occupied in smaller producing countries such as Colombia, Peru, Ecuador, Nigeria, Indonesia, Cameroon, etc. The Cocoa and Forest Initiative has been replicated to a certain extent in Colombia (under the zero deforestation agreements) and Brazil.

4FLAGSHIP CONCLUSIONS AND RECOMMENDATIONS

This section explores key conclusions and recommendations drawn from the mapping, categorisation and detailed descriptions. It seeks to address the specific question of how to make the best use of existing initiatives and approaches for EUDR compliance. It also seeks to align, build on and complement the work and recommendations on traceability, forest monitoring and sustainability monitoring already conducted by other organizations, in particular WRI (2023) and FERN (2024).

CONCLUSION 1: THERE IS A NEED TO INCREASE KNOWLEDGE, TRANSPARENCY AND COMPARABILITY OF SYSTEMS CONCLUSIONS

There is a **profusion of tools, approaches and systems** of different nature, which often include **high levels of technical capacity** in how they are set up and function.

There are also **differing levels of clarity and transparency** in relation to how they are set-up and function. It is often arduous to understand their coverage (topics, indicators, scope) and their practicalities (definitions used, data collected, levels of verification, etc.). Information about how systems/tools are set up and operate are sometimes hard to find, or not publicly available.

As a result, it may prove **difficult to have an easy and clear understanding** of systems and tools, in particular when one or a combination of them is meant to be used within a due diligence system, for instance in view of EUDR compliance.

Many stakeholders, from operators and traders in scope of EUDR to national competent authorities, need to develop detailed and accurate understanding of those systems, which requires both a strong level of expertise and good sources of information.

THERE ARE ALSO DIFFERING LEVELS OF CLARITY AND TRANSPARENCY IN RELATION TO HOW THEY ARE SET-UP AND FUNCTION.

NEEDS AND RECOMMENDATIONS TO STAKEHOLDERS

There is a need to continue mapping, categorising, and highlighting what tools do in a **systematic and independent manner**. This study is a first step, but such level and type of analysis can and should be continued on a recurrent basis. Tools categorisation could be based on more specifically defined criteria.

There is a need for in-depth **systems comparisons or benchmarks**, based on agreed, streamlined and EUDR-aligned indicators, to provide for clear comparison between systems.

While being detailed and comparing important granular elements of systems, such benchmarks should however be clear and digestible, to avoid adding more information to an environment which already faces an overload of hard to navigate information.

To ensure adequate comparability, there is also a need that systems proactively ensure that they are as **transparent** as possible on their scope (sustainability topics, criteria, commitments), their traceability mechanisms, their methodologies and sources of information, and their quality systems (levels of verifications, audits, safeguards...), and that information is readily available.

Aligning or collaborating on **shared definitions and datasets** may also facilitate comparison of systems.

CONCLUSION 2: THERE IS A NEED TO ACKNOWLEDGE ACHIEVEMENTS AS WELL AS CURRENT LIMITATIONS AND ENSURE CONTINUOUS IMPROVEMENTS OF SYSTEMS

Some initiatives and tools have built, sometimes over years, **unprecedented levels of dialogue**, **collaboration and alignment** among stakeholders. This is especially true for the diagnostic of issues and challenges and the setting of commitments, goals and good practices. To some extent, considerable progress has also been made in the field of implementing changes in supply chains and reporting on sustainability impacts and metrics. However, there are still important improvements to secure in terms of pace and scope of implementing **better practices** within the production and sourcing of key commodities impacting forests and ecosystems.

Clear gaps exist between existing systems and EUDR requirements, even for those which are more advanced, comprehensive and robust. Gaps exist in terms of scope (legality principle and zero-deforestation as defined in the EUDR) and traceability mechanisms (physical traceability of materials as made necessary by the EUDR). Sometimes however, existing systems go beyond EUDR requirements (e.g. earlier cut-off date for zero-deforestation).

In terms of systems robustness and quality mechanisms, there is also a common reliance on **self-declared information**, with a low level of collective understanding and agreement on where and how independent verifications are necessary and should be targeted.

There are still important **data gaps** that need to be addressed to achieve sustainability and regulatory objectives (e.g. on field mapping for smallholder produced commodities, data for trade relying on indirect sourcing). Where relevant data exists, it is sometimes not sufficiently accessible or usable by stakeholders, and/or there are issues of accuracy, credibility and verification (e.g. issues relating to the accuracy of national land registers).

THERE ARE STILL IMPORTANT DATA GAPS THAT NEED TO BE ADDRESSED TO ACHIEVE SUSTAINABILITY AND REGULATORY OBJECTIVES

NEEDS AND RECOMMENDATIONS TO STAKEHOLDERS

For existing tools to be useful within EUDR compliant due diligence systems, it is necessary that **gaps are identified and addressed**, either by adjusting those systems to EUDR requirements, or by operators and traders implementing complementary steps.

Understanding what those gaps are requires awareness-raising among stakeholders both on the systems and on EUDR requirements.

In terms of legal compliance, it seems key that systems align their **understanding of legality risks** at country level, and therefore build a collective understanding of relevant documents to collect or other risk mitigation actions to take. Such country level legality assessments would be very useful if standardized, publicly available and easily accessible.

In term of **forest monitoring**, existing initiatives should give preference to the use of **shared resources and datasets**, **aligned definitions and well-documented methods**. It is recommended to rely first on the use of shared and open datasets, and to complement plotlevel analyses with privately obtained, high resolution tailored imagery only where there are specific needs.

It is also important to avoid computational analyses on deforestation being run multiple times for the same agricultural or forest plot in different systems and at different stages of supply chains.

Independent assessment or verification of traceability, sustainability and forest monitoring data are crucial to address identified gaps and improve practices.

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Limitations due to data gaps, unavailability of data or limitations to sharing data must be addressed. Stakeholders should strive to use **shared datasets**, **standardized data and build complementary interoperable systems**.

Such improvements must build on preliminary collective agreement on goals, concept and operationalisation of data sharing.

CONCLUSION 3: THERE IS A NEED TO OVERCOME CHALLENGES LINKED TO TRACEABILITY AND TO ACHIEVE MORE FUNCTIONAL, SEAMLESS TRACEABILITY SYSTEMS

Few existing systems are currently implementing advanced traceability approaches and tools, that enable systematic **physical traceability** from the plots of land where commodities are produced through the supply chains, which is a requirement under the EUDR.

There is still a lack of collective agreement on data needs, as well as practical data standardisation, shared datasets and systems interoperability.

This results in imprecise and fragmented traceability systems, which often make it **difficult to seamlessly collect and share desired sustainability data** between supply chain entities. The bulk of data collection is still mostly done at a single point in the supply chain, rather than split and shared between supply chain partners.

Indirect sourcing, where supply chains rely on multiple intermediaries and/or informal actors is still a major barrier for traceability systems, which can be overcome with centralised systems, ideally with the involvement and support of governments, the private sector and other relevant stakeholders.

Advanced and detailed traceability, such as tracking and transactional traceability (i.e. recording all transactions along supply chains) and verification of traceability information is possible but is not commonly implemented.

Although some third-party certifications, government tracking systems and private tools do enable such level of traceability, those are still in the minority.

NEEDS AND RECOMMENDATIONS TO STAKEHOLDERS

Efforts are still needed to design and refine **ambitious**, **yet practical and functional traceability models** that enable solid due diligence practices and compliance with the EUDR.

These models should cater to all types of supply chains and actors, including those with indirect sourcing practices, smallholders, and smaller actors. The design of such traceability models would require an objective assessment of the current levels of **digitalisation**, **digital literacy and capabilities** within supply chains, and therefore a diagnostic to identify the capacity-building efforts in this area would be required.

There is a need to commit efforts and resources to a collective dialogue on **data standardisation**, **shared datasets and systems interoperability**, in order to build more robust and agile traceability systems.

There is also a need for more open dialogue and discussion regarding the desired level of transparency in supply chains, especially among supply chains partners (e.g. between producers, aggregators, processors all the way to manufacturers and retailers). Regulatory frameworks such as the EUDR require a very high level of visibility across whole supply chains back to commodity producing areas. It is key to collectively advance the understanding on what and how supply chain data must be shared among supply networks, and to **balance data safeguards and data sharing in an impactful way**.



CONCLUSION 4: THERE IS A NEED TO ENSURE THAT EFFORTS AND RESOURCES ARE WELL TARGETED AND POOLED TOGETHER WHERE POSSIBLE

There is a lot of **data duplication**, in particular farm data (field boundaries), especially sectors where the private sector has invested a lot in its own, siloed systems. This represents an important duplication of resource use, that could be targeted to other impactful activities. It also places undue efforts on farmers and cooperatives, which are the ones who need to engage in multiple mapping exercises and use multiple digital traceability systems to input data. Siloed and unshared data also has a **limited potential** for positive impacts.

Existing examples of robust traceability back to plantation highlight that advanced traceability systems are possible but requires **key resources and coordination**. In particular, overcoming opacity associated with indirect sourcing and the presence of intermediaries in supply chains cannot be handled without sectorial, industry and government-backed traceability approaches.

The **role of national governments** in producing countries is crucial for country-wide change toward more sustainable producing practices. Governments of producing countries are central to developing shared datasets, in particular around farm boundaries and trade/transaction records. However, a lack of openness and disclosure on government-led tracking or certification systems may lead the private sector to continue investing in its own siloed private systems.

There could also be lock-in effects, where actors having already invested a lot of resources, might tend to prefer keeping their own system unless there are strong incentives and trust to use collective systems, such as those developed by governments in producing countries.

NEEDS AND RECOMMENDATIONS TO STAKEHOLDERS

There is a need for **concerted and collaborative actions** from all stakeholders to ensure functional, impactful and EUDR aligned systems. Visions and needs should be clearly laid out, including when interests and data demands might be diverging. **Coordination** is key to avoid unnecessary duplication of work.



The **implication or support from governments** in producing countries is crucial to avoid duplication of some data (farm data, national trade data). On the other hand, for their systems to be trusted and widely adopted, governments should **collaborate and engage in dialogue with the private sector and other stakeholders.**

Governments also have an important role to play in building high-quality, shared datasets. Public systems and datasets should also uphold transparency and accountability principles.

There should be room for different systems to coexist

while aligning on key datasets and minimum requirements. For instance, a national traceability and certification system could coexist with a private certification system bearing higher ambitions and specificities.

Necessary resources, including from the private sector and from governmental or institutional collaborations (for instance between the EU and producing countries), should be allocated to increase impact and systems efficiencies. Producing country governments intending to develop functional traceability and certification systems should also acknowledge the need for continued funding and adequate policies as well as incentives for systems to be sustained.

CONCLUSION 5: CONTINUE ENSURING SYNERGIES WHICH GO ABOVE AND BEYOND EUDR COMPLIANCE

It is important to drive both transformation of production and sourcing patterns and EUDR compliance on same front. It is particularly key to **avoid market leakage** and improvement of practices only for EUDR bound products.

Many stakeholders are considering mill segregation between products for EU market and other markets, which would not achieve much sectorial transformation and impact.

A clear way of **monitoring systems achievements and impacts** is missing. A light, non-mandatory approach may send a strong market signal that prompts real change, whereas a more complex, advanced mechanism with operational challenges might achieve little change.

EU regulators and competent authorities should **keep close track** of initiatives and sectors achieving clear results in fighting deforestation and ensuring legal production of commodities.

It is also important to acknowledge where existing tools and initiatives are already going **beyond EUDR requirements** (in terms of cut-off date, definitions, scope, thresholds, field verifications, etc.). It is key not to backtrack on progress made where current market practices exceed those of the EUDR.



NEEDS AND RECOMMENDATIONS TO STAKEHOLDERS

There is a need to **assess the efficiency** of collaborative initiatives and corresponding market signals, especially where those are (1) backed by both the private sector and governments of producing countries and (2) driving desired changes. A continuous f**eedback loop** should be directed at regulators.

It must be recognized **that sector-wide progress through collective systems has a greater impact** than a multitude of siloed systems lacking transparency. Transparent, credible multi-stakeholders, government backed efforts must be rewarded and should not be compromised by the prospect of imminent entry into date of the EUDR.

Both processes should reinforce each other (EUDR encouraging sustained pace and transparency on process, while awarding an appropriate flexibility where there is clear evidence that transformation is under way).

It is key for the EU regulators and competent authorities to **acknowledge ongoing collaborative efforts** seeking alignment between stakeholders as well as government support in producing countries. In the context of EUDR compliance and checks performed by competent authorities, where compliance is not fully achieved by an operator or trader, it will be key to make fair and adequate distinctions between cases where no due diligence is implemented versus cases where existing collaborative systems are being used and deployed, even if not fully functional yet to meet EUDR requirements.

The counterpart to this should be **systematic highlevel transparency** from systems undergoing development, in terms of regularly and honestly communicating on objectives, methods and state of progress.

IT IS IMPORTANT TO DRIVE BOTH TRANSFORMATION OF PRODUCTION AND SOURCING PATTERNS AND EUDR COMPLIANCE

5 MAPPING OF EXISTING AND POTENTIAL KNOWLEDGE PRODUCTS, EXPERTISE AND INFORMATION

5.1. SUPPORT TOOLS

Support tools listed in this category are elements which can be key to establishing robust responsible sourcing. However, they do not provide users with concrete supply chain data that may be used as evidence for regulatory compliance, in particular with EUDR requirements. These tools are useful for designing relevant due diligence processes and can serve as a first step in applying such processes.

For instance, a different approach may be taken when sourcing from a supplier that has made clear commitments and is engaged in a collective initiative, compared to a supplier that is not participating in collective commitments or an initiative.

SOURCING AND DUE DILIGENCE GUIDANCE

This category covers documents which are intended at providing elements to facilitate the set-up of company specific responsible sourcing practices. They can lay out principles, priorities, topics to monitor, practical activities, areas of focus, potential tools and/or stepby-step guidance.

They tend to be unspecific in terms of sourcing decisions. For instance, they would state that it is important for a company to make commitments, without necessarily being explicit or normative about what constitutes a robust commitment for a given commodity. They are therefore usually intended to be adaptable, allowing companies to tailor them according to their unique business practices and systems. Most do not specifically target regulatory compliance.

NAME	GEO- GRAPHIC FOCUS
Generic sourcing and due diligence guide	ance
<u>OECD-FAO Business Handbook on Deforestation</u> and Due Diligence in Agricultural Supply Chains	Global
Accountability Framework Core Principles and Operational Guidelines	Global
WWF DCF Implementation Toolkit	Global
Preferred by Nature due diligence toolkit	Global
Alliance for the Preservation of Forests Responsible purchasing Framework	Global
Palm oil	
Proforest Palm oil Toolkit	Global
Sustainable Palm Oil Sourcing Guidelines Consumer Goods Forum	Global
Guidance for Forest Positive Palm Oil Suppliers Consumer Goods Forum	Global
Framework for Human Rights Due Diligence Systems in Palm Oil Supply Chains	Global
Soy	
Proforest Soy Toolkit	Global
<u>Sustainable Soy Sourcing Guidelines</u> <u>Consumer Goods Forum</u>	Global
Guidance for Forest Positive Soy Suppliers and Traders – Consumer Goods Forum	Global
Guidance on the Forest Positive Soy Roadmap	Global
FEFAC Soy sourcing guidelines and benchmarking tool	Global
Cattle	
Proforest Beef Toolkit	Global
<u>Guidance on the Forest Positive Beef Roadmap</u> <u>Consumer Goods Forum</u>	Global
<u>Guidance for Forest Positive Suppliers of Cattle-</u> <u>derived Products (Meatpackers in Brazil) Consumer</u> <u>Goods Forum Forest Positive Coalition</u>	Brazil
<u>GIPS Guia de Indicadores da Pecuária Sustentável</u> (Guide to Sustainable Livestock Indicators) Brazil	Brazil
<u>Colombia Policy Guidelines for Sustainable Cattle</u> <u>Ranching (Lineamientos de Política para la</u> Ganadería Bovina Sostenible 2021 – 2050)	Colombia

COLLECTIVE COMMITMENTS AND ROADMAPS

This category covers clear and specific collective goals paving the way for changes in sourcing practices.

Most of existing commitments have been taken by coalitions of industry leaders and producing countries. Some have also been taken by government in consuming markets (in particular European governments). It is notable that a lot of those commitments are bringing all stakeholders around the table (governments, industry at different segments of supply chains, civil society, sometime also including research institutions), thus truly building alignment and key steps for change.

NAME	STAKEHOLDERS	GEO- GRAPHIC FOCUS	
Multiple commodities, driven by sourcing stakeholders			
Amsterdam Declarations Partnership	Governments (consumer markets)	Global	
Agriculture Sector Roadmap to 1.5°	Industry	Global	
Multiple commodities, region-specific			
Cerrado Manifesto and its Statement of Support	Civil society, Industry	Brazil, Cerrado	
Mato Grosso PCI Program/Strategy	Governments (producing areas)	Brazil, Mato Grosso	
Zero Deforestation Agreement Colombia	Governments (producing areas), Civil society, Industry	Colombia	
Palm oil			
Forest Positive Palm Oil Roadmap Consumer Goods Forum	Industry	Global	
Indonesia National Action Plan for Sustainable palm oil 2019-2024	Governments (producing areas)	Indonesia	
Beef			
Forest Positive Beef Roadmap Consumer Goods Forum	Industry	Global	
Soy			
Amazon Soy Moratorium	Governments (producing areas), Industry, Civil society	Brazil	
Green Protocol of Grains of Para (Protocolo Verde dos graos)	Industry, Governments (producing areas), Civil society	Brazil, State of Para	
Forest Positive Soy Roadmap Consumer Goods Forum Link	Industry	Global	
French Soy Manifesto	Industry, Governments (consumer markets)	Global	
UK Soy Manifesto	Industry	Global	

NAME	STAKEHOLDERS	GEO- GRAPHIC FOCUS
Cocoa		
Joint Framework for Action Ghana Cocoa & Forests Initiative	Industry, Governments (producing areas), Governments (consumer markets), Civil society	Ghana
Ghana Cocoa & Forests Initiative National Implementation Plans	Governments (producing areas)	Ghana
Joint Framework for Action Côte d'Ivoire Cocoa & Forests Initiative	Industry, Governments (producing areas), Governments (consumer markets), Civil society	Côte d'Ivoire
<u>Côte d'Ivoire Cocoa & Forests Initiative National</u> Implementation Plans	Governments (producing areas)	Côte d'Ivoire
Joint Framework for Action Cameroon Roadmap to Deforestation-free Cocoa	Governments (producing areas), Industry, Civil society	Cameroon

COLLABORATIVE INITIATIVES

Multi-stakeholder forums play an important role in driving awareness, aligning efforts, and fostering synergies among diverse groups committed to sustainability. These platforms are instrumental in promoting collaboration and coherence among relevant stakeholders, especially within the private sector, for which building pre-competitive environments is key to shifting sourcing practices. With voluntary membership, these forums create a space for open dialogue and cooperative action. Activities within these forums vary in their practicality, ranging from the development of tools and activities to more strategic endeavours like the creation of commitments, roadmaps, and practical guidance.

Some of these forums focus on bringing together a wide array of participants, including businesses, non-governmental organizations (NGOs), government bodies, and community groups, while others are gathering actors of a similar nature (e.g. traders or retailers).

NAME	SHORT DESCRIPTION	STAKEHOLDERS	GEOGRAPHIC FOCUS
Multiple comm	nodities		
<u>Consumer</u> <u>Goods Forum</u> <u>Forest Positive</u> <u>Coalition</u>	 Gathering 21 goods retailers and manufacturers¹¹. Supported by the Tropical Forest Alliance and Proforest. Objective is to remove deforestation, forest conversion and degradation from key commodity supply chains goal to achieving zero-net deforestation by 2020. Supports trader and supplier engagement, government and stakeholder engagement, landscape initiatives implementation, tools and good practices sharing. Developed commodity-specific sourcing guidelines, roadmaps, working groups and reporting. Individual members have their own policies and KPIs. 	Industry	Global

NAME	SHORT DESCRIPTION	STAKEHOLDERS	GEOGRAPHIC FOCUS
<u>Africa</u> <u>Sustainable</u> <u>Commodities</u> <u>Initiative</u>	 Started in 2016 focusing on palm oil, then extended to other commodities in 2021. 10 signatory countries. Declaration includes commitments to promote the respect of the rights of small producers, local communities and indigenous people, recognize and respect human rights of communities and indigenous people, support the achievement of national commitments to zero deforestation and ensure that developers and investors seek Free, Prior and Informed Consent (FPIC) of land rights holders, land users, local communities and indigenous people. Each signatory country has a national multi-stakeholders platforms for collaboration and consultation. Supported by the Tropical Forest Alliance and Proforest. 	Industry, Civil society, Governments (producing areas)	Africa
Palm oil			
Palm Oil Collaboration Group (POCG)	 Brings together companies to accelerate effective implementation of NDPE commitments. Convened by PepsiCo and Cargill and facilitated by Proforest, with 30+ member companies at different stages of the palm oil supply chain ¹². Yearly meetings and working groups, including on the NDPE Implementation Reporting Framework, social issues, production and protection beyond concessions and independent verification. 	Industry	Global
<u>Sustainable</u> <u>Palm Oil</u> <u>Choice</u>	 Gathers a group of companies and organizations¹³. Has developed 8 recommendations for palm oil businesses, which includes buying 100% RSPO certified palm oil, investing in palm oil producing landscapes, joining action-oriented platforms, as well as engaging consumers, governments and policy makers. Hosts sustainable palm oil related information and webinars on their website. 	Civil society, Industry	Global

AAK, ADM, Apical, BAS, Bunge Loders Croklaan, Cargill, COFCO International, Danone, Fuji Oil, GAR, General Mills, The Hershey Company, IFF, IKEA, IOI Group, ISF, Kellogg, KLK, LDC, Mars, McDonalds, Mewah, Mondelēz, Musim Mas, Neste, Nestlé, Olam, Oleopalma, PepsiCo, P&G, Permata Group, PIL Group, RB, Sime Darby, SOP, Unilever, United Plantations Berhad, Walmart, Wilmar.
 Leading organizations: Solidaridad, Conservation International, WWF, Sime Darby, Ferrero, Cargill and Wilmar.

NAME	SHORT DESCRIPTION	STAKEHOLDERS	GEOGRAPHIC FOCUS
Palm Oil Transparency Coalition (POTC)	 Pre-competitive coalition¹⁴ to remove deforestation and exploitation from the palm oil production sector. Aims at RSPO compliant palm, traceable to plantations, respecting human rights and FPIC principles. Uses a robust engagement and evaluation process for measuring the progress of the major first importers of palm oil into international markets. In 2017 POTC launched its first collective assessment process with 3Keel to understand how the palm oil producers and traders in supply chains are progressing and moving towards zero deforestation and exploitation oil palm production. POTC is supported by 3Keel LLP. 3Keel provides program coordination and technical expertise to Members and Affiliates. 	Industry	Global
Soy			
WBCSD Soft Commodities Forum	 Established in 2018 by the World Business Council for Sustainable Development (WBCSD). Unites major soft commodity traders¹⁵. Primary focus on eliminating deforestation from soy supply chains in Brazil's Cerrado region, concentrating efforts on 61 focus municipalities within the biome (focus reviewed and updated every 3 years). Shared framework for transparent and traceable soy supply chains. Members engage in data collection, traceability, monitoring deforestation through satellite imagery, verifying data according to a protocol and reporting on volumes sourced in the Cerrado. 	Industry	Cerrado, Brazil
<u>Collaborative</u> Soy Initiative	 Multi-stakeholder community of experts. Mission to facilitate synergies between stakeholder initiatives and actions, identify new actions, raising awareness, create a market pull for conversion-free, sustainable soy. 	Independent organization, Civil society, Industry	Global

14 Members: Ahold Delhaize, ALDI Nord, ALDI South Group, Casino Group, The Co-operative Group (UK), Eight Fifty Food Group, Kellogg, Marks & Spencer, METRO AG, Mondelez, Morrisons, Nestle, Sainsbury's, Tesco, Waitrose and Partners, Walgreens Boots Alliance.
 15 ADM, Bunge, Cargill, Cofco, LDC, Viterra.

SHORT DESCRIPTION	STAKEHOLDERS	GEOGRAPHIC FOCUS
 14 founding members which are working downstream of soy traders¹⁶. Collective assessment/benchmark of the performance of major soy traders Includes public reports Provides detailed, non-anonymized reports and scorecard to members. 	Industry	Global
 Roundtable supporting the improvement of sustainability of global beef value chains. Sets goals around reducing illegal deforestation, greenhouse gas emissions and improving land use and animal welfare. Has over 500 members working in 24 different countries through national roundtables, working groups and projects. 	Industry	Global
 Initiative launched in 2017, bringing together the governments of Côte d'Ivoire and Ghana as well as 36 cocoa and chocolate companies. Facilitated by IDH and the World Cocoa Foundation. Objective to end deforestation and restore forest areas. Statement for intent and frameworks for action, including on the conservation of national parks and forested lands as well as the restoration of forests that have been degraded by farm encroachment. Framework for actions have been translated into National Implementation Plans and countries issue annual reports. Signatory companies develop and publish their action plans. 	Governments (producing areas), Industry	Côte d'Ivoire, Ghana
 Started in 2018, public-private pre-competitive initiative. 8 signatory companies¹⁷. Facilitated by the World Cocoa Foundation. Includes the control of deforestation and promotion of deforestation among its priorities. Supports cocoa-related public policies, provides of technical support documentation/ guidance for cocoa production. 	Governments (producing areas), Industry	Brazil
	 SHORT DESCRIPTION 14 founding members which are working downstream of say traders¹⁶. Collective assessment/benchmark of the performance of major say traders Includes public reports Provides detailed, non-anonymized reports and scorecard to members. Roundtable supporting the improvement of sustainability of global beef value chains. Sets goals around reducing illegal deforestation, greenhouse gas emissions and improving land use and animal welfare. Has over 500 members working in 24 different countries through national roundtables, working groups and projects. Facilitated by IDH and the World Coccoa Foundation. Objective to end deforestation and restore forest areas. Statement for intent and frameworks for action, including on the conservation of national parks and forested lands as well as the restoration of forests that have been degraded by farm encroachment. Framework for actions have been translated into National Implementation Plans and countries issue annual reports. Started in 2018, public-private pre-competitive initiative. & signatory companies¹⁷. Scalitated by the World Cocca Foundation. Objective to end deforestation and problish their action plans. Started in 2018, public-private pre-competitive initiative. & signatory companies¹⁷. Scalitated by the World Cocca Foundation. Includes the control of deforestation and promotion of deforestation among its priorities. Supports cocca-related public policies, provides of technical support documentation/ guidance for cocca production. 	SHORT DESCRIPTION STAKEHOLDERS 9 14 founding members which are working downstream of say traders*. Industry • Collective assessment/Seenchmark of the performance of major say traders Industry • Includes public reports Provides detailed, non-anonymized reports and scorecard to members. • Noundtable supporting the improvement of sustainability of global beef value chains. Industry • Industry are and animal welfare. Industry • Has over 500 members working in 24 different countries through national roundtables, working groups and projects. Governments and countries through national roundtables, working groups and projects. • Initiative launched in 2017, bringing together the governments of Cote d'Ivoire and Ghana as well as 36 accea and chocolate companies. Governments groups and projects. • Initiative launched in 2017, bringing together the governments for cotion and restore forest areas. Governments in the conservation of national parks and forested lands as well as the restoration of forests that have been degraded by farm encroachment. Governments (producing areas), Industry • Framework for actions have been translated into National Implementation Plans. Signatory companies develop and publish their action plans. • Signatory companies develop and publish their action plans. Supports cocca-related public policies, provides of technical support documentation/ guidance for accoa production. Governments (producing areas), Industry </td

16 Aldi, Cranswick, groupe Casino, Grieg seafood, Hilton, M&S, Metro, Moy park, Pilgrim's, Sainsbury's, Samworth Brothers, Sofina, Tesco, Waitrose.
 17 Barry Callebaut, Cargill, Dengo, Harald, Mars Wrigley, Mondelez, Nestlé, Olam.

SUSTAINABILITY WIDE-SCALE ASSESSMENTS

This category covers wide-scale assessments on sustainability topics: these can be assessments of producing countries for a given commodity, or assessment of key supply chain actors.

These evaluations can offer insightful analysis into the environmental performance and sustainability commitments of sectors and companies.

They are very useful instruments to integrate in a wider due-diligence system, enabling organizations to take differentiated, progressive and adjusted steps towards mitigating risks.

THESE EVALUATIONS CAN OFFER INSIGHTFUL ANALYSIS INTO THE ENVIRONMENTAL PERFORMANCE AND SUSTAINABILITY COMMITMENTS OF SECTORS AND COMPANIES.



Farmer in Amazon region of Brazil © Julio Pantoja /	World Bank
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NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
Company focus		
<u>SPOTT ZSL</u>	 Developed by the Zoological society of London (ZSL). Offers independent and publicly available assessments of commodity producers, processors and traders. Aims at benchmarking companies progress over time through sector-specific indicators. Categories assessed include sustainability policy and leadership/landbank, maps and traceability/ certification standards/deforestation and biodiversity/ High Conservation Value (HCV), High Carbon Stock (HCS) and impact assessments/peat, fire and greenhouse gas (GHG) emissions/water, chemicals and pest management/ community, land and labor rights/smallholders and suppliers/governance and grievances. Publicly available methodology and scoring criteria. Assessments are reviewed annually. Greater weight is placed on verified information (as opposed to self-reported). 	Global

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
<u>Forest 500</u>	 Developed by the NGO Global Canopy. Identifies the 350 companies with the greatest influence on tropical deforestation and the 150 financial institutions which are providing the most finance to them. Updated every year. Publicly available methodology for assessment. Companies are awarded a total score out of 100, aggregating scores from an overall approach category, and commodity-specific categories on commitment/policy strength, associated human rights and reporting and implementation. Covers beef, leather, palm oil, paper, soy and timber. 	Global
<u>CDP Forest scores</u>	 Disclosure mechanism to track progress on avoidance of deforestation and conversion (DCF). Companies self-report on their sustainability performance. There is one survey/scoring specific to forests, and two other on climate and water security. Open scoring methodology. Scores range from D- (poor) to A (best). Companies ranking A are publicly disclosed on the CDP website. Registration is necessary to access other data. The Forest survey includes categories on procedures, governance, business strategy, implementation, verification and supply chain. 	Global
<u>WWF Palm Oil Buyers</u> scorecards	 227 palm oil buyers assessed last in 2024. Publicly available methodology, scores and details on companies assessed. Allocates a total score to companies (out of 24). Includes categories on commitments, purchasing, supplier accountability, sustainability platforms and on the ground action. 	Global
Country/commodity for	us	
<u>GMAP (The Global</u> <u>Map of Environmental</u> <u>and Social Risk in Agro-</u> <u>Commodity Production)</u>	 Developed by the IFC (International Finance Corporation from the World Bank Group) and WWF. Generates country-commodity risk reports (more than 330 country/commodity combinations available). Designed to support the agribusiness sector improving sustainable sourcing and financial intermediaries strengthen their screening procedures for trade finance. Publicly available methodology. Uses publicly available data and information from reputable sources. Covers two broad categories: labor and working conditions and biodiversity conservation and sustainable management of living natural resources. Uses a risk matrix to attribute scores out of 100 (higher risk). Free account needed to access all GMAP reports. 	Global
NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
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<u>Preferred by Nature</u> <u>Sourcing Hub</u>	 Developed by not-for-profit organization Preferred by Nature. Includes country and sub-national level risk data relating to timber and agricultural commodities. Highlights applicable regulatory frameworks in given countries, applicable risks of non-compliance and possible risk mitigation actions. Publicly available methodology and assessments. 	Global

5.2. DATASETS (GEOSPATIAL INFORMATION)

This category highlights a comprehensive collection of datasets that can provide important evidence of compliance with EUDR requirements.

However, those datasets are not comprehensive systems that are ready to use and sufficient. Most will only address one or a few specific requirements of the EUDR. They must be plugged into larger processes, steps and/or digital tools to provide actionable and comprehensive information. In particular, they contain tools that leverage maps, satellite imagery and algorithms to monitor land-use changes, especially deforestation. They are often tailored to specific commodities or geographic regions.

OFFICIAL LAND OWNERSHIP REGISTRIES

This category gathers official records that document the ownership, boundaries, and valuation of land parcels.

These registries serve as a legal basis for property transactions, ensuring clarity and security in land ownership and use. They are instrumental in providing information on the geolocation of plots of land where commodities are produced (article 9(d) of the EUDR) in order to subsequently evidence the absence of deforestation after the cut-off date (article 9(g) of the EUDR), and/or to evidence that the commodity has been produced in accordance with the relevant legislation (article 9(h)), which includes land use rights (article 2(40)(a)).

Official land ownership registries are important in that they provide a single, official version of information.

They also often attribute unique identifiers to plots (e.g. farms or farmers). They are not always publicly available, or conditions may apply to accessing the data or verifying information against it (e.g. verifying that a farm ID provided by a supplier is correct).



NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
Argentina Registro Nacional Sanitario de Productores Agropecuarios (RENSPA)	 Mandatory registry in Argentina covering all agricultural, livestock, and forestry activities, linking producers to their production and land. Serves to identify producers, their properties, cultivated products, and the corresponding land area. Registration is free and can be done online or in-person. Annual updates are required, and cessation of activity can be reported without any charges. The system facilitates traceability by assigning a unique identifier to each producer, allowing monitoring of activities and products. 	Argentina
Brazil Sistema Nacional de Cadastro Ambiental Rural (CAR)	 Obligatory nationwide electronic record for all rural properties in Brazil established by Law No. 12.651/2012. Governed by the National System of Information on the Environment (Sistema Nacional de Informação sobre Meio Ambiente SINIMA) and regulated by Normative Instruction MMA No. 2, dated May 5, 2014. Integrates essential environmental information for areas like Permanent Preservation (APP), restricted-use, Legal Reserves, and native vegetation. Serves as a tool for environmental planning, monitoring, and combating deforestation, with registration being the initial step towards achieving environmental compliance for rural properties. 	Brazil

Ongoing developments in: Côte d'Ivoire, Ghana, Indonesia

KEY SINGLE MAP PRODUCTS

This category lists some of the key specialised maps relevant to EUDR requirements. These maps are mostly developed based on satellite imagery but can also build on images and datapoints from field data collected onsite (i.e. points and boundaries collected with GPS devices), or airborne imagery (from planes, drones, etc.). They are useful to provide evidence that the commodities and derived products are deforestation-free (article 9(h) of the EUDR) and may also support evidence of the legal production (for instance, the farm is not within a protected area). Great care must be applied to the definitions used for the dataset (e.g. what is considered as forest), as well as to acknowledged limitations. Global maps tend to have accuracy issues as automated processes do not always allow to capture regional specificities. Known challenges are around managing cloud cover in tropical area, distinguishing between forest and tree or agricultural plantations, and identifying agricultural crops growing under forest cover (e.g. shade crops such as coffee and cocoa). It is generally advised to rely on multiple sources of data.

NAME	SHORT DESCRIPTION	FOCUS AREA
Global dataset		
JRC 2020 Global Forest cover	 European Commission Joint Research Center (JRC) global map of forests. Provides a representation of forest absence or presence for 2020. Developed by combining available global datasets (wall-to-wall or global in their scope) on tree cover, tree height, land cover and land use into a single harmonised globally-consistent representation of where forests existed in 2020 10m resolution. Aligned with FAO definition of forest and the EUDR cut-off date. Available list of known issues online. Interactive visualization online, through Google Earth Engine and download in tiles are available. 	Global
<u>SBTN Natural</u> <u>Lands Map</u>	 Developed under the Science Based Target Network (SBTN) by WRI, WWF and Systemiq. Labels natural and non-natural land cover (include forests, short vegetation, wetlands, water, snow/ice and bare land). Companies that produce products on land, or source from producers that do, can use the Natural Lands Map to see if their production or sourcing activities have caused conversion since 2020. Includes spatial prioritization of natural land to protect ("core natural land"). Develop by combining both global and local data. 30m resolution. Aligned with FAO definition of forest. Available through visual online interface and Google Earth Engine. 	Global
JAXA Forest/ non forest Map	 Provides global forest distribution data based on the data observed by ALOS. 25m resolution. Aligned with FAO definition of forest. 	Global

NAME	SHORT DESCRIPTION	FOCUS AREA
GLAD/Hansen Tree Cover Loss	 Also named Hansen Global Forest Change 2000-2022. Developed as partnership between GLAD laboratory of the University of Maryland and WRI. Provides annually updated global-scale forest loss data, using Landsat time-series imagery. Approximately 30m resolution. Available on GFW interface and many other visualization tools. Acknowledged inconsistencies, such as difficulty to distinguish between tree plantations and natural forest cover and to represent complex mosaic landscape. 	Global
<u>Tropical Tree</u> <u>Cover</u>	 Maps tree extent at the ten-meter scale and tree cover at the half hectare scale to enable accurate monitoring of trees in urban areas, agricultural lands, and in open canopy and dry forest ecosystems. Data extends over 4.3 billion hectares of the global tropics. Uses a different definition of a tree and a different definition of tree cover than does Hansen Tree Cover Loss. Does not disambiguate plantation trees from non-plantation trees. Available on Global Forest Watch (GFW) interface. 	Global
<u>JRC Tropical Moist</u> <u>Forest</u>	 European Commission Joint Research Center dataset on forest cover change in tropical moist forests (TMF) using 41 years of Landsat time series. Covers the tropical moist forests, which include all closed forests in the humid tropics with two main forest types: the tropical rain forest and the tropical moist deciduous forest. Deforestation refers to a change in land cover (from forest to non-forested land) when degradation refers to a temporary disturbance in a forest remaining forested such as selective logging, fires and unusual weather events (hurricanes, droughts, blowdown). Updated yearly. Hybrid transition map is now available at a resolution of 10m for the period from 1990 to 2022. Available for download or on Google Earth Engine. 	Global
<u>Spatial Database</u> of Planted trees	 Compiled by Global Forest Watch using data obtained from national governments, non-governmental organizations and independent researchers. The category of "planted trees" in the SDPT includes forest plantations of native or introduced species, established through deliberate human planting or seeding. Makes it possible to identify planted forests and tree crops as being separate from natural forests and enables changes in these planted areas to be monitored independently from changes in global natural forest cover. Contains 173 million hectares of planted forest and 50 million hectares of agricultural trees, or approximately 82% of the world's total planted forest area. Available on GFW as the "tree plantation" layer. 	Global

NAME	SHORT DESCRIPTION	FOCUS AREA
<u>World Database</u> on Protected Areas (WDPA)	 World's most comprehensive database of protected areas. Joint project between UN Environment Programme and the International Union for Conservation of Nature (IUCN), and is managed by UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), in collaboration with governments, non-governmental organizations, academia and industry. Uses the IUCN's definition of a protected area as the main criteria for entries to be included in the database. Data available in online visualization tool and for free download. 	Global
Specific areas/cou	untries	
<u>GLAD Soybean</u> expansion in South America	 Annual soybean expansion in South America between 2000 and 2019 obtained by combining satellite observations and sample field data. Objective of mapping and monitoring commodity crop extent and expansion in South America. Available through Google Earth Engine. South America soybean layers also available for download for years 2001 to 2021. 	South America
<u>Côte d'Ivoire</u> national land cover map (BNETD- CIGN)	 Land use map of Côte d'Ivoire in 2020. Aligns with FAO definition of forest. Map validated by the EC JRC with an accuracy of 84%. Second version in development. Available via Côte d'Ivoire GIS portal. Should be available for download too. 	Côte d'Ivoire
Ghana 2019 and 2021 national land cover maps (Forestry Commission RMSC)	 Land use map of Ghana. Includes close forests, open forests, grassland, cocoa, shaded cocoa, other tree crop, mangrove, etc. Available for viewing only. Differs from FAO definition of forest. 	Ghana
<u>Cocoa</u> Deforestation Risk Assessment (DRA)	 Map layer identifying deforestation risk linked to cocoa in Côte d'Ivoire and Ghana for targeted interventions. Data Integration: Combines geospatial datasets on recent forest loss, terrain suitability, and cocoa plot data from companies. Resolution and Classification: Analyzes data at a 30-m resolution, scaled to 1-km for risk classification into five priority levels. Applicable for various scales, from individual plots to larger landscapes. Risk Interpretation: Low risk does not imply low intervention priority; additional environmental data is recommended for comprehensive assessment. Updates: Annual, with the current version reflecting data up to 2023, ensuring relevance. Geographic Coverage: Côte d'Ivoire and Ghana, focusing on areas critical to the cocoa industry. 	Côte d'Ivoire, Ghana

NAME	SHORT DESCRIPTION	FOCUS AREA
<u>The West Africa</u> <u>Cocoa dataset</u> <u>(WAC)</u>	 Maps cocoa plots in the supply chains of 19 companies in Côte d'Ivoire and Ghana, distinguishing individual plots within farms. Data Collection: Plots are defined by polygons formed from in-person collected coordinates along plot boundaries. Development Protocols: Created by the WRI, it involves data sharing, cleaning, and aggregation protocols, plus a legal and ethics review to protect farmers and comply with privacy laws. Public Accessibility: Summarized as a cocoa plot density map on Global Forest Watch, showing distribution without precise plot boundaries to ensure data privacy and utility as a public resource. Data Contribution and Cleaning: Companies submitted data on active plots from 2021, which was cleaned and aggregated to identify unique cocoa plots, totaling 840,000 plots over 1.5 million . 	Côte d'Ivoire, Ghana
Cameroon 2020 national forest/non forest map (MINFOF)	Ongoing development.	Cameroon

DEFORESTATION ALERT SYSTEMS

This category lists methodologies and systems designed to monitor and report changes in forest cover in near real-time, aiming to identify and prevent illegal deforestation activities.

They enable a quick identification of recent changes to vegetation cover. Most systems are global, public and available for free. Some focus on target region and their specificities, whereas others also integrate several detection systems to provide a centralised point of information.

In terms of EUDR compliance, they may be useful to monitor deforestation frontlines where agricultural areas are being expanded for the EUDR scope commodities – in such cases, early identification may help prevent future crops from being mixed with compliant volumes.

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
Global coverage		
<u>GFW Integrated</u> deforestation alerts	 10m resolution deforestation alert system. Detects change in primary forests as well as plantations as well as younger forests. Integrates alerts from GLAD-L, GLAD-S2 and RADD systems into a single layer. 	Global
GLAD-L (Global Land Analysis and Discovery – Landsat)	 30m resolution deforestation alert system, updated every eight days. Covers a wide variety of landscapes to detect loss in any type of tree cover, including plantations. 	Global
RADD (Radar for Detecting Deforestation)	 10m resolution deforestation alert system, based on radar. Updated every six-12 days. Penetrates cloud cover to detect change in humid tropical primary forests. 	Global

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
JICA-JAXA Forest Early Warning System in the Tropics	 Monitor tropical forests in 78 countries every 1.5 months and release deforestation data, using JAXA's ALOS-2 imagery. JJ-FAST is the web-based system to access the data. Free access to the data. 	Global
<u>SAD (Sistema de Alerta</u> de Desmatamento) alerts	 Monthly alert that monitors forest cover loss and forest degradation in the Brazilian Amazon. information that is published monthly by Imazon, a Brazilian NGO, through its Forest Transparency Bulletin. Monthly alerts derived from a temporal mosaic of MODIS daily images. The monthly results are validated using medium resolution images from the China-Brazil Earth Resources Satellite (CBERS) and NASA Landsat data in order to "ground-truth" the results being reported. 	Global
<u>Terra-I</u>	 Collaboration between the International Center for Tropical Agriculture (CIAT DAPA, based in Colombia), The program on Forestry, Trees and Agroforestry (FTA) ,The Nature Conservancy (TNC, global environmental organization), the School of Business and Engineering (HEIG-VD, based in Switzerland) and King's College London (KCL, based in the UK). System for near real time land cover or habitat change monitoring. Focus is on land cover (vegetation) change. Resolution is relatively low (250m). Sentinel 1 data and MODIS (Moderate-Resolution Imaging Spectroradiometer which provides images of the entire surface of the globe every 1 to 2 days) alerts are used to provide alerts on deforestation. Data can be visualized the geobrowser (web map) environment downloaded as GIS files. Freely available. 	
Specific areas/countries		
GLAD-S2 (Global Land Analysis and Discovery –Sentinel 2)	• Detects change in humid tropical primary forests at 10m resolution, updated every five days.	Latin America
<u>TerraBrasilis Deter (Real- Time Deforestation</u> <u>Detection System)</u>	 Project from Brazil's National Institute for Space Research (Inpe). Delivers daily alerts to streamline and qualify the inspection of environmental and police agencies in the forest. Warnings about deforestation are accessed directly by environmental agencies such as IBAMA and ICMBio, as well as the Public Prosecutor's Office. Uses CBERS and Amazönia satellites. Forest loss identified starting at 3 hectares. Publicly available data. 	Brazil

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
<u>MapBiomas Alerta</u>	 Developed by MapBiomas, a multi-institutional initiative involving a collaborative network of universities, NGOs, and technology companies dedicated to mapping land cover and land use changes. System of validation and refinement of deforestation alerts with high resolution images. Generate complete and ready-to-use documentation for each deforestation alert coming from several deforestation alert systems such as DETER, GLAD and SAD. Offers alert reports, downloadable shapefiles, plugins and API connection. Publicly available and free. 	Brazil
<u>SIPAMSar</u>	 Government system that uses radar data to identify initial loss of native vegetation in areas across the Legal Amazon, even with the presence of cloud cover. Alerts are sent to environmental inspection bodies, such as IBAMA and ICMBio, whenever a detection occurs. 	Brazil
<u>Geobosques</u>	 Platform managed by the Ministry of Environment (Minam). Free and open access. Provides annual information on deforestation, as well as early warnings of deforestation, every 16 days, which allows monitoring of specific areas of interest to users. Uses satellite images that allow detecting changes in forest cover and identifying deforestation events. The early warning system allows to monitor forest areas in defined areas of interest based on political boundaries, territorial categories or personalized coverage (automatic email updates). These early warnings do not establish the causes of deforestation. 	Peru

VISUALIZATION AND ANALYSIS TOOLS

This section lists specific digital platforms that allow users to interact with and visualize geographical data through customisable maps, incorporating multiple layers of information for in-depth analysis. Maps and geospatial datasets can also be manipulated through desktop software (e.g. QGIS) or generic GIS interface (e.g. Google Earth Engine), but those listed in this section offer users with built-in functionalities for forest monitoring. They can be relevant to an organization seeking to comply with EUDR requirements, either to fuel a high-level understanding of a producing areas, associated vegetation and trends and/or to assess specific plots in relation to their history of forest cover. Some of those tools will indeed allow users to upload, and even save, their own geospatial data (e.g. farms plots relevant to their own supply chains). However, those usually have limited functions to manage large and complex supply base GIS data.

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
Global coverage		
<u>Global Forest</u> <u>Watch</u>	 Online platform that provides data and tools for monitoring forests worldwide. Managed by WRI, with an extensive partnership with over 100 organizations, researchers and companies. Database and data analysis regarding deforestation and world's forests status. reely available GIS visualization tool with many relevant layers available (tree cover, tree cover loss, land use, integrated deforestation alerts, etc.). Global Forest Watch pro builds on top of freely available data and offers more advanced functionalities (analyses, dashboards, etc.). 	Global
<u>GeoRSPO</u>	 Developed by the WRI and RSPO. Displays concession maps for RSPO certification. Includes group, company, plantation names, certification status, country, and boundaries. Concession data sourced from ACOP submissions, GIS updates, membership applications, and certification processes. Provides downloadable geospatial data in shapefile format. Offers statistical and geospatial analysis tools. Features data layers on deforestation, tree cover, climate data, and satellite imagery. Committed to transparency, continuously adding new map layers and features. 	Global
<u>Whisp Earth Map</u>	 Open-source tool designed to enhance forest monitoring and assist in meeting zero deforestation requirements (as defined by the EUDR) through a convergence of evidence approach. Key features include Geospatial Analysis (evaluates land use within a plot using data as of 31 December 2020) and Data Extraction (Gathers zonal statistics from public datasets, presented in tabular form). Dataset Categories: Forest and tree cover at end of 2020, Deforestation since 2020, Crop plantations and agricultural uses, Conservation significant areas. 	Global

NAME	SHORT DESCRIPTION	geographic FOCUS
<u>MapBiomas Land</u> <u>Cover and Use</u>	 Initiative of the Greenhouse Gas Emissions Estimation System (SEEG) from the Climate Observatory, supported by a collaborative network formed by NGOs, universities, and technology startups. Started in Brazil with the Brazilian Annual Land Use and Land Cover Mapping Project and was then disseminated to most Latin America countries as well as Indonesia. Objective to make knowledge about land use accessible, in order to pursue conservation and sustainable management of the natural resources. Publicly available information on the methodology (via ATBD Algorithm Theoretical Basis Document). 	Latin America, Central America, Asia
Latin America		
<u>TerraBrasilis –</u> <u>Prodes</u>	 Project from Brazil's National Institute for Space Research (Inpe). Overall goal is to offer transparency of the deforestation rates and increment of the deforestation area. Quantifies and spatializes occurrences of suppression and/or degradation of native vegetation. Includes and differentiates all Brazilian forest biomes (not just the Amazon). Uses imagery from Landsat, Sentinel and CBERS. Intended for public entities to support the formulation of Brazilian State public policies. 	Brazil
<u>Geovisor</u>	 Developed by WWF. Tool is embedded in ArcGIS Web. Allows to visualize several shapefiles across the Amazon biome, including protected areas, indigenous areas, high conservation areas, land cover data up until 2013 / 14, administrative boundaries, demographics, etc. It is possible to add shapefiles form the Esri community and to upload own shapefiles for analyses. 	Latin America
<u>ImazonGeo</u>	 Developed by Imazon, a science-based, not-for-profit organization in Brazil. Provides a number of administrative boundaries, socio-economic land classes, land-scape features. Includes a Timber Exploitation Monitoring System (Simex) and evaluates the regularity of Sustainable Forest Management Plans (PMFS), by crossing official data with satellite images, and carries out mapping of all timber activity (cut selective) on a state scale. Also provides a number of ready-made analyses and reports on a variety of topics, including timber extraction. 	Brazil

NAME	SHORT DESCRIPTION	geographic FOCUS
<u>Sentinel-1 for</u> <u>Science Amazonas</u>	 The Sentinel-1 for Science: Amazonas project uses Sentinel-1 mission data to estimate forest loss through a space-time data cube design. Sentinel-1 mission offers regular tropical forest observations every 6 to 12 days using SAR data. The data allows biweekly monitoring of deforestation and forest degradation, unaffected by weather conditions. Implemented by a consortium of four partners: Gisat, Agresta, Norwegian University of Life Sciences and the Finnish Geospatial Research Institute. Over 5.2 million hectares of forest loss in the Amazon detected from 2017 to 2021. Open access to data and tools provided by ESA's Open Science Data Catalogue and openEO Platform to foster global research collaboration. The project aims for advancements in understanding global forests and carbon cycles, emphasizing Open Science and reproducibility. 	Latin America
<u>Uruguay National</u> <u>Agricultural</u> <u>Information System</u> (SNIA)	 Public information system from the Ministry of Livestock, Agriculture and Fisheries with information for the agricultural and fishing sectors. Provides information on soil, water, vegetation, livestock and climate and integrates it through various processes to generate monitoring information, alerts, forecasts, risk maps, for different purposes: productive, health, safety, conservation. Provides maps on vegetation index since 2000, as well as layers on GIS interface (land use occupation and agricultural production, administrative boundaries, protected areas, transport routes, etc.) 	Uruguay
Asia		
Nusantara Atlas	 Comprehensive platform dedicated to monitoring deforestation, fires, peatland degradation, and forest regeneration in Equatorial Asia. Tracks the actions of palm oil, pulp-and-paper, mining and timber producers as major drivers of deforestation. 	
<u>Nusantara Atlas</u>	 Leveraging satellite data from sources like Planet-NICFI, Sentinel-2, Landsat, NOAA-20, S-NP, and MODIS, as well as deforestation alerts (RADD, GLAD). Provides near-real-time alerts for deforestation and fire hotspots. Users can generate dynamic time-lapse satellite animations using diverse datasets and access cadastral information. Free and open access. 	Asia

NAME	SHORT DESCRIPTION	GEOGRAPHIC
<u>ESDM One Map</u> <u>Indonesia</u>	 Developed by the Ministry of Energy and Minerals Resources to implement Indonesia's One Map Policy, established through Law No. 4:2011 and Presidential Decree No. 9:2016. Those regulations mandate the standardization and unification of geospatial data across various institutions and ministries. Web-GIS platform enabling the display, analysis, and monitoring of energy and mineral resources. Aims to aid stakeholders in decision-making processes related to territorial issues. Displays a wide array of information including geological potential for minerals, coal, etc., forest areas and electrical infrastructure (power plants, substations, transmission, and distribution networks). 	Indonesia
Eyes on the forest interactive map	 Collaborative project between WWF-Indonesia, the Eyes on the Forest coalition in Riau, Sumatra, and Google Earth Outreach. Publicly available. Dedicated to progressively disclosing an extensive database that encompasses land cover, usage, and the profiles of land users in Sumatra. Underlying objective is to shed light on the severe threats endangering these ecosystems by pinpointing the main causes of deforestation, habitat degradation, and the release of carbon from peatlands. Includes data on Sumatra forest cover between 1985 and 2014, on protected areas, in pulp and paper mills location, concession location and transportation corridors, on palm oil illegalities and investigations, as well as other environmental data. 	Indonesia, Sumatra
Asia		
<u>Cameroon</u> Interactive Forest <u>Atlas</u>	 Online interface on forest geographical information in Cameroon. Displays layers on forest concessions, community forest, annual harvest permit boundaries, management zoning within concessions, protected areas, etc. Layers can be downloaded freely as csv, KML, shp and GeoJSON. Managed by the Ministry of forest and fauna, with support from WRI. 	

5.3. OTHER DATASETS

TRADE AND TRANSPORT DATASETS

This category gathers specific datasets on trade and transport of relevant commodities and derived products.

They can be particularly valuable for identifying and mitigating risks associated with supply chain management, in the context of environmental compliance and sustainability objectives. For EUDR compliance specifically, they may support the identification or verification of supply chains for products in scope.

Those trade and transport data are not comprehensive systems that would be ready to use and sufficient, most will only support the necessity to trace supply chains first, in order to then obtain reliable evidence of legality and zero-deforestation. They are not fully functional traceability systems and must be plugged in to broader due diligence systems to contribute to wider supply chain mapping/traceability.

THIS CATEGORY GATHERS SPECIFIC DATASETS ON TRADE AND TRANSPORT OF RELEVANT COMMODITIES AND DERIVED PRODUCTS.

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
Global trade and su	upply chains	
<u>Trase</u>	 Developed by Stockholm Environment Institute and Global Canopy. Combines publicly available data on global trade (including shipment data), focuses on trading companies trading commodities between producing countries/regions and consumer countries. Produces sector-wide supply chain maps. Connect supply chains to deforestation exposure and other environmental impacts. 	Global
Supply chain entitie	s identification	
<u>Universal Mill List</u>	 Publicly available list of palm oil mills. Currently encompasses more than 2,000 mills worldwide. Data contributed from processors, traders and consumer goods manufacturers, the Roundtable on Sustainable Palm Oil (RSPO), and FoodReg. Mills are added following a standardized methodology developed by WRI and Rainforest Alliance, using high-resolution satellite imagery to manually verify the presence and location of mills. Standardizes the identifiers used by actors for different mills by assigning a universal identification (ID). This allows for easy cross-referencing among mill lists and enables third-party monitoring. Duplicate mills are identified and removed according to a duplicate analysis to identify exact and nearby GPS locations. Available online and for download. 	Global

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
Country transport of	lata for beef	
Argentina Sistema Integrado de Gestión de Sanidad Animal (SIGSA)	 Tool for the control of animal health and public health, which allows you to access the origin of all bovine or bovine animals that are moved or traded at national level. Includes several obligatory procedures and norms, including the national register of agricultural producers (RENSPA), an animal identification system (caravanas tags) to trace each unique animal and a transit document required to move animals or animal by-products through any part of Argentine territory (DT-e). Is managed by the The National Agrifood Health and Quality Service (SENASA). 	Argentina
<u>Paraguay Sistema</u> <u>Informatico de</u> <u>Gestion de Oficinas</u> <u>Regionales (SIGOR)</u>	 National IT system for the management of products and by-products of animal origin. All movement of animals is carried out under a health certificate authorization (Certificado Oficial de Tránsito de Animales COTA). The system records relevant data on owners, establishments of origin and destination, number, class, type and brand of animals. Allows quick access to key information in cases of relevant health events. 	Paraguay
Brazil GTA (Animal Tracking Guide Guia de Trânsito Animal)	 Initially designed to eradicate foot and mouth disease in cattle. Official and mandatory system used to record cattle transport in Brazil. Tracks movements of cattle batches/lots. Prior to transporting cattle, producers must fill out GTAs and indicate cattle lot information, including number of animals being transported, age range, destination and identification of origin (which includes the municipality, name of ranch or meat processor, and taxpayer's ID Number). The completed form accompanies the cattle until they reach their destination, at which point the it is recorded digitally. GTA are about specific transfer they do not contain information about earlier cattle transfers. Data not systematically publicly available, different approaches depending on States. Data is recorded on State-level databases and federal database. 	Brazil

5.4. INTEGRATED SYSTEMS

This last category gathers broader processes, tools and methodologies that form integrated digital infrastructures. Such systems are operationalising supply chain transparency, forest monitoring and/or evaluation of legal and sustainability criteria within supply chains.

They usually allow the identification, collection, access, and sharing of key supply chain data among several stakeholders, which may include businesses and government authorities. The objectives may be to ensure uninterrupted, secure and reliable flows of information, enabling stakeholders to make informed decisions based on comprehensive data. These can take multiple forms, from third-party evaluation or assurance systems to systems set-up by producing countries authorities, including multipartite systems, companies' own systems and dedicated commercial systems.

GOVERNMENT SYSTEMS

This category covers both certification systems backed and developed by governments, as well as official transit/transactions tracking systems. Many of these systems are mandatory for a specific sector or supply chain and are used by governments to enforce compliance and promote transparency.

There are a few cases where the systems are voluntary, in particular systems dedicated to companies seeking to export their production overseas.

NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
Government certific	ation systems		
<u>Indonesia</u> <u>Sustainable Palm</u> <u>Oil – ISPO*</u>	 Introduced by the Indonesian Ministry of Agriculture Mandatory requirement for all oil palm growers and millers operating in Indonesia with the objective to holistically address environmental issues and improve the competitiveness of Indonesian palm oil in the global market. Voluntary implementation for smallholder farmers, began in 2015. Covers nearly 800 plantation organizations (smallholders, cooperatives, companies). Based on existing Indonesian legislation. 7 principles: licensing system and plantation management, technical guidelines for cultivation and processing, environmental management and monitoring, responsibilities for workers, social and community responsibility, strengthening community economic activities, sustainable business development. The 7 principles include a series of 56 criteria and 141 indicators. Segregation and mass balance models available. 	Palm oil	Indonesia

NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
Malaysia Sustainable Palm Oil – MSPO*	 National scheme, endorsed by the Malaysian government for oil palm management and supply chain certifications covering plantations, independent and organized smallholdings and palm oil processing facilities. Traceability module MSPO Trace to track and trace MSPO certification from oil palm plantings down to the supply chain. The digital platform was pilot tested in 2020, and enforced from September 2020. MSPO Trace covers all certification and Supply Chain Certification, traceability information of transactions along the supply chain and the MSPO claims on certification and commitment. MSPO scheme split into four parts: general principles, principles for smallholders, principles for palm oil plantations and organized smallholders, principles for palm oil mills. Follows principles on: management and commitment responsibilities, transparency, compliance to legal requirements, social responsibility, health, safety and employment conditions, environment, natural resources, biodiversity and ecosystems, best practices and development of new plantation. Covers supply chain models of identity preserved, segregated and mass balance. 	Palm oil	Malaysia
African Organization for Standardisation ARS-1000 Standard for sustainable cocoa (in development)	 Series of African standards for cocoa: cocoa farmer management system and performance, cocoa quality and traceability and certification scheme Will be mandatory country-wide in Côte d'Ivoire and Ghana: implementation guide for Côte d'Ivoire has been developed Environmental pillar aiming at preventing deforestation and combating climate change 	Сосоа	Africa

NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
<u>Colombia Sello</u> <u>de Ganadería</u> <u>Sostenible</u>	 Within the framework of the Colombian Environmental Seal (Sello Ambiental Colombiano), the Ministry of Agriculture and Rural Development, the Ministry of the Environment and Sustainable Development, in alliance with the National Livestock Fund (FNG), created the category of sustainable cattle and buffalo farming. Includes four principles that group 15 criteria or lines of action, to strengthen environmental management, the protection of human health, animal welfare and respect and care for farm workers. Seal also expected to be recognized by consumers at the national and international level, strengthening the positioning of the sector and benefiting producers. Obtaining this environmental label is voluntary, interested farms must apply for evaluation. Seal awarded by certification bodies endorsed by Colombia's National Accreditation Body (ONAC) and the National Environmental Licensing Authority (ANLA). Not fully deployed, still in pilot process. 	Cattle	Colombia
Costa Rica cattle national certification scheme (in development)	 Corfoga (Corporación Ganadera), is developing a technical standard for the production and certification of bovine meat produced free of deforestation. Standard is not yet published. Includes the evaluation of the most important aspects in the management of production systems, such as traceability, biosecurity, animal health, feed, animal welfare, facilities, environmental management and transportation. 	Cattle	Costa Rica
Ecuador Deforestation-Free Certification for Agricultural and Livestock Production (in development)	 Agreement signed between Ecuador's Ministry of Environment and Water, Ministry of Agriculture and Livestock and its Agency for the Regulation and Control of Phytosanitary and Animal Health (Agrocalidad). Will implement a "Deforestation-Free Certification for Agricultural and Livestock Production." The agreement establishes a national definition of deforestation-free production and mandates the development of technical regulations for certification, and the incorporation of this model into the agricultural and livestock sector. Linked with Ecuador "Premium and Sustainable" brand Involved stakeholders: PROAmazonia, European Forest Institute (EFI) and private companies such as Lavazza, Olam, UNOCACE, ECOLAC and Latitud 0. 	Multiple	Ecuador

NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
Government trackir	ng systems		
Brazil Tracking Service of Bovines and Bubalus – SISBOV	 Registry for cattle and buffalo in the national territory. Mandatory for export to the EU and other regions requiring traceability. Enables the tracking of the animals from birth to slaughter through identification of individual heads of cattle with unique code, ear tags and other marking methods. Tracks birth month/date of the animal, sex, health information. System managed by the Ministry of Agriculture, Livestock, and Supply (Ministério da Agricultura, Pecuária, e Abastec-imento; MAPA). SISBOV certification for cattle property is delivered by accredited organizations. 	Cattle	Brazil
<u>Selo Verde</u> (Para, Brazil)	 Developed by the Government of Pará and the Federal University of Minas Gerais in 2023, with the support of AL-INVEST Verde. Pará is the first Brazilian state to implement such a public system. Supports property regularization and monitors compliance with environmental and labor legislation. Provides transparent traceability information for the entire livestock production chain in Pará. Significant in assessing compliance with socio- environmental standards, specifically, deforestation-free production. 	Cattle	Brazil
SITRAP (Voluntary Traceability System of Paraguay)	 Information system to register, manage and control data linked to export cattle, thus contributing to guarantee compliance with international regulations required for access and permanence to markets that require it. Auditable information system. Implements individual identification and registration of the residences and health/nutritional activities of an animal, including through the use of declaration forms for the transfer of animals between SITRAP establishments. Established based on regulations and decrees. The list of SITRAP establishments is publicly available online. 	Cattle	Paraguay

NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
<u>Uruguay Animal</u> <u>Identification and</u> <u>Registration System</u> (<u>SIRA)</u>	 Uruguay's formal traceability system to trace their beef back to its source, initially focused on sanitary emergency or food safety issue. Includes information for health, social, and environmental considerations. Producers have detailed post-processing data on their cattle, including pricing and yield. System supports real-time tracking, pinpointing production locations, lots, farmers, and animals. 	Cattle	Uruguay
<u>Uruguay SNIG</u> (Sistema Nacional de Información Ganadera)	 Information system to ensure the traceability of cattle from the establishment of origin of the animal to the slaughterhouse, both individually and by groups of animals, in accordance with the provisions and MGAP regulations. 	Cattle	Uruguay
<u>Programa Oficial de</u> <u>Trazabilidad Animal</u> <u>for Chile</u>	 Program for the traceability of live cattle on an individual basis. Maintains the information of a bovine animal carrying the Official Individual Identification Device (DIIO), from birth to slaughter, including its movements. The use of the DIIO has been mandatory since March 2013 for all cattle moving within the national territory. Other important components of the program include: a registration system of farms, the declaration of Existence of Animals, animal movement recording. All corresponding information is being registered in the Official Livestock Information System (SIPECweb). 	Cattle	Chile
Bolivia National Program for bovine traceability (Programa Nacional de Rastreabilidad Bovina y Bubalina)	 Single Identification and Traceability System (SIT) that tracks each individual animal. Ear tags or other approved methods for individual identification are required. This identification helps track the movement and history of cattle. Cattle owners or producers are typically required to register their animals in the SIT system and report any changes, such as births, deaths, transfers, and sales. This information is used to maintain accurate records of the cattle population. Producers and their farms need to be registered in the RUNSA, the national registry of animal establishments, which requires a certain level of legality, but does not include monitoring or prevention of deforestation. 	Cattle	Bolivia

NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
<u>Ghana Cocoa</u> <u>Management/</u> <u>Traceability System</u> (CMS/CTS) (in development)*	 Ongoing development to digitalize cocoa data and traceability in Ghana The traceability system (GCTS) is embedded in the larger cocoa management system (CMS) Intends to collect farm data in real-time, allow productivity and yield output calculations, detect sourcing from protected areas, etc. 	Сосоа	Ghana
National cocoa tracking system Côte d'Ivoire (Système national de traçabilité du cacao) (in development)	 Managed by the official institution CCC (Conseil du Café-Cacao). System based on ministerial decree decision. IT system recording trade movements, individual cocoa bean bags and producer identification from the farms. 	Сосоа	Côte d'Ivoire

* Systems in blue are systems which are further detailed in section 5 below.

THIRD-PARTY EVALUATION/ ASSURANCE SYSTEMS

This category covers independent verification services dedicated to evaluating the compliance, quality, or performance of organizations, products, or processes relative to established standards or criteria. Usually developed from collaborative partnerships between multiple stakeholders, these systems operate on a voluntary basis.

Some target single organizations within supply chains, while others are product-based and aiming at attaching sustainability labels or claims to products sold to end consumers. In the latter case, systems usually include a chain of custody (CoC) standard with one or several models to track certification volumes or claims throughout supply chains. A specific area of attention, in particular for EUDR compliance, is that some CoC model maintain control over the physical flows of products mixed along the supply chain (Identity preserved and Segregated models), while others do not maintain this (mass balanced models)¹⁸. Another area of caution is around the nature, independence and quality of verifications conducted. Finally, although those systems usually heavily rely on the collection and verification of specific data points, they do not always mandate (or facilitate) the sharing of such data across supply chain actor.

Despite using certification systems, organizations may not gain visibility on their supply chains (sub-suppliers, origins of commodities, etc.).

18 Mass balance models do not require physical segregation of inputs throughout the supply chain, but allow for mixing or blending of sustainable or certified materials with conventional or uncertified materials at various stages of production. The overall balance between certified input and products claimed is accounted for and verified. Segregated models ensure that certified inputs are always physically separated and identifiable. Identity preserved models further keep products or batches of products from one specific source or origin separated.

NAME	SHORT DESCRIPTION	COMMODITY
Organization certif	ication/evaluation	
<u>ProTerra MRV</u> Standard V 1.0	 Standard launched in January 2024. Designed to verify whether the economic operator adequately manages its supply chain to ensure that it is sustainable and free from deforestation. Systematic approach for assessing and verifying due diligence practices. Assesses the economic operator's purchasing practices, contracts and suppliers' performance in terms of sustainability, among other issues. Addresses EU Deforestation Regulation, requiring evidence by Dec 30, 2024. Based on third-party audits. Verification statement are issued upon audits. 	Soy, other
<u>Leather Working</u> <u>Group</u>	 Non-profit initiative, multi-stakeholder organization with over 1,800 members in 65 countries, including tanneries, leather goods makers, brands, suppliers, traders, and NGOs. Focus on improving traceability in the leather production process. Different certification standards depending on supply chain role: Leather manufacturer, Leather Trader, Commissioning Manufacturer and Subcontractor. Standards encompass operations, social aspects, traceability, environmental management systems, chemical usage, water usage, waste management, and health and safety. Aims to achieve deforestation and conversion free leather by 2030. Some documentation collection and due diligence performed on slaughterhouses but not at farm level. Audits are performed by LWG approved auditors. Audit standards are available to members/users or upon request. 	Cattle
<u>Aval Ganso</u>	 Tool for evaluation and continuous improvement to qualify the management of a livestock company in terms of sustainability, adapted to the Colombian context. Ganso is a Colombian organization supported by Climate Focus and the International Center for Tropical Agriculture (CIAT). Evaluations are conducted by Ganso against 5 pillars, group a set of 52 indispensable practices in the sustainable production of cattle, buffalo and milk. Pilars and practices are publicly available. Pillars are aligned with the principles of the Global Roundtable for Sustainable Beef, the Dairy Sustainability Framework, the Sustainable Agriculture Network, Global GAP, the social and environmental performance standards of the IFC, the Good Farming Practices of the Colombian Agricultural Institute (ICA) and other national regulations. Indicators includes the protection of natural forests and forest cover as well as the protection of water, soils, biodiversity, ecosystems, etc. Evaluations grant different levels to producers: motivated (conformance with 51 to 79% of practices) and responsible (conformance with 80% or more of practices). Evaluations are annual (biannual for producers under the responsible status). 	Cattle

NAME	SHORT DESCRIPTION	COMMODITY
Product certification	1	
<u>Rainforest Alliance</u> <u>Certification*</u>	 Main standard for sustainable agriculture, includes requirements for producers and for supply chain organizations. Consumer facing label. Covers cocoa, coffee, tea, multiple fruits, vegetables, nuts, flowers, herbs and spices. Requirements for farm includes elements on management, farming practices, social aspects and environmental protection. Includes identity preserved, segregation and mass balance CoC models. Certified volumes traded are recorded in a central digital platform Multitrace. Available and voluntary EUDR module (self-selected criteria at farm level). Offers complete traceability and geolocation of plots of production. 	Cocoa, Coffee, other
<u>Fairtrade</u>	 Covers a wide range of products, including banana, coffee, cocoa, cotton, cane sugar, flowers and plants, honey, dried fruit, fruit juices, herbs, spices, tea, nuts and vegetables. Standards are designed to support the sustainable development of small producer organizations and agricultural workers in developing countries. Incorporate a holistic blend of social, economic and environmental criteria. Standards are available for producers (small-scale producers, hired-labor organization, contract production) and companies, manufacturers, purchasers and others. They are specific to commodities. Includes a specific component on minimum prices and premiums paid to producers. Includes physical traceability (segregated model) or mass balance. 	Cocoa, Coffee, other
<u>Roundtable on</u> <u>Sustainable Palm</u> <u>Oil – RSPO *</u>	 Main global certification system for certified sustainable palm oil. Includes standards for the production and procurement of sustainable palm oil. Around 20% of global palm oil worldwide RSPO certified. Principles and criteria comprising 8 basic principles: commitment to transparency, compliance with applicable laws and regulations, commitment to long-term economic and financial viability, use of appropriate best practices by growers and millers, environmental responsibility and conservation of natural resources and biodiversity, responsible consideration of employees and of individuals and communities by growers and mills, responsible development of new plantings and commitment to continuous improvement. Palm oil organizations must be assessed by a third-party RSPO accredited certification body every 5 years, with annual audits for continued compliance. Includes identity preserved, segregated, mass balance and book and claim models. 	Palm oil

NAME	SHORT DESCRIPTION	COMMODITY
ISCC Plus	 Certification system for food, feed, chemicals, plastics, packaging, textiles and feedstock using renewable energy sources, including biomass (e.g. from soy and palm oil industries). Requires sustainable, deforestation-free and traceable supply chains for covered feedstock. Independent third-party certification. Ensures compliance with ecological and social sustainability requirements, greenhouse gas emissions savings (on a voluntary basis under ISCC PLUS) and traceability throughout the supply chain. Three chain of custody options: physical segregation, controlled blending and mass balance. 	
<u>ProTerra*</u>	 ProTerra Standard is based on the Basel Criteria on Responsible Soy, published in 2004, which has four core aims: Foster good agricultural practices; Secure the supply of sustainably produced, fully traceable, non-GMO ingredients for feed and food; Protect the environment, and Promote that workers and communities be treated with dignity and respect. Current core Standard version is V5.0. There are complementary Standards for Europe, smallholders and Insects as food and feed. The scheme has three chain of custody (CoC) models: Identity Preserved (IP), Segregation (SG) which keeps soy physically segregated from non-certified sources; and Mass Balance (MB) which allows for mixing with non-certified material. In 2020, ProTerra has reported to certify 3 million tons of soy. Standards are publicly available, as well as the certification protocol defining the auditing process. Only Certification Bodies approved by ProTerra are allowed to conduct audits. 	Soy
<u>Roundtable on</u> <u>Responsible Soy</u> <u>– RTRS*</u>	 Global certification standard for soy and corn, for multiple purposes: human consumption, animal feed, biofuels. Ensures the production of environmentally correct, socially appropriate and deforestation and conversion free soy and corn. Includes 5 principles and 108 mandatory and progressive indicators: legal compliance and good business practices, responsible labor conditions, responsible community relations, environmental responsibility, good agricultural practices. Includes four chain of custody (CoC) models: Segregation (SG), Mass Balance (MB), Country Material Balance and Credits. Audits are conducted by independent certification bodies. In 2020, RTRS has reported to certify 4.5 million tons of soy. 	Soy

* Systems in blue are systems which are further detailed in section 5 below.

MULTIPARTITE VERIFICATION SYSTEMS

This category covers multipartite collaborative systems piloted by several stakeholders that may include government entities, private sector players, and civil society. They do not necessarily qualify as certification or verification systems led by independent third parties (section above), but they also go beyond collaborative initiatives simply aiming at driving alignment and cooperation.

The systems listed below do implement the collection, assessment and/or verification of supply-chain specific data. They are voluntary, although some have succeeded in gathering strong base of users, sometimes representing almost the whole industry of a given region or country.

THIS CATEGORY COVERS MULTIPARTITE COLLABORATIVE SYSTEMS PILOTED BY SEVERAL STAKEHOLDERS THAT MAY INCLUDE GOVERNMENT ENTITIES, PRIVATE SECTOR PLAYERS, AND CIVIL SOCIETY.



NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
Traceability ar	nd verification systems		
<u>ViSeC - Vision</u> <u>Sectorial del</u> <u>Gran Chaco</u> <u>Argentino*</u>	 Industry-wide initiative to bridge efforts and overcome issues linked to traceability for indirect sourcing. Wide membership from industry association and entities at various stages of the soy supply chain. Not mandatory but large commitments from soy industry associations to use Visec. Rosario Stock Exchange is developing and maintaining the platform and technical aspects. Includes traceability and geolocation of producers, through RENSPA database. Includes deforestation analyses performed by third-parties. Aiming to cover 100% of the soy value chain in Argentina. Technical committee currently developing a verification protocol. System may be extended/developed for cattle and for soy in Paraguay. 	Soy, cattle	Argentina, Paraguay

NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
<u>Visipec*</u>	 Joint effort of the National Wildlife Federation (NWF) and AVP, based on a methodology developed by scientists and researchers in the Gibbs Land Use and Environment Lab (GLUE) at the University of Wisconsin-Madison (UW). Based on the Working Group on Indirect Suppliers (GTFI) principles for indirect suppliers in the livestock chain, developed to address gap of indirect sourcing traceability and monitoring. Currently covers the most important cattle ranching states in the Brazilian Amazon biome (Mato Grosso, Pará, and Rondônia). Enhances supply chain visibility and improves deforestation monitoring. Addresses the challenge of tracing and monitoring indirect suppliers by linking direct and indirect cattle suppliers, through matching CAR and GTA data (limited to tier 1 indirect suppliers). Integrates public data sets alongside existing monitoring systems. Not much transparency from the use of Visipec by meatpackers/aggregated analysis shared with GTFI in April 2023. 	Cattle	Brazil
<u>Beef on Track</u> (<u>Boi na linha)</u>	 Real metapackers/aggregated analysis shared with GTFI in April 2023. Created in 2019, an initiative of Imaflora, in partnership with the Federal Public Prosecutor's Office. Seeks to drive alignment between cattle producers, slaughterhouses, supermarkets, investors, public actors and civil society organizations and to accelerate the implementation of the commitments made in the Amazon. Focuses on increasing transparency for a beef value chain free of deforestation, slave labor or invasion of public lands. Harmonizes and clarifies the technical rules and public commitments of Terms of Conduct Adjustment (Termos de Ajustamento de Conduta TAC) executed with the Public Prosecutor's Office Promotes good practices through monitoring, auditing and reporting processes and tools. Includes a Monitoring Protocol for Cattle Suppliers in the Amazon for slaughterhouses and meatpackers that process beef from cattle produced in the Amazon region to honor their social and environmental commitments. The Monitoring Protocol is based on 11 criteria (illegal deforestation, Ibama embargo, changes to boundaries, protected areas, indigenous land, slave labor, etc.). Zero-deforestation (including legal deforestation) criterion is optional. Uses publicly available databases to carry out monitoring, including GTA although there are different levels of availability depending on States and limitations for indirect sourcing. 		Brazil

NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
Others			
<u>Soy on Track</u>	 Program and platform supporting the implementation of Amazon Soy Moratorium, The Green Protocol of Grains in Para and sectoral and corporate commitments in the Cerrado. Developed and implemented by Imaflora. Provides access to systems, tools, data and technical information for a deforestation-free soy chain. Provides support for auditing and verification activities for companies taking commitments. 	Soy	Brazil
Cerrado Protocol (Voluntary Monitoring Protocol for Cattle Suppliers in the Cerrado)	 Voluntary monitoring protocol for cattle suppliers in the Cerrado. Jointly developed by Proforest and Imaflora. Aims at contributing to an alignment of the best socio-environmental monitoring practices for cattle purchases in the Cerrado Biome. Includes 12 criteria covering social and environmental features relevant to responsible sourcing of cattle. All monitoring criteria use publicly available data and have been developed through a consultation process involving key stakeholders. Properties that do not meet any specific criterion defined in the protocol will have commercial relations suspended at first with buyers committed to the Protocol. To be unblocked, they must follow the unblocking rules defined for each criterion. 	Cattle	Brazil, Cerrado
NDPE Implementation Reporting Framework	 Developed under the POCG The Implementation Reporting Framework (IRF) is aimed at providing a tool to monitor the implementation of NDPE commitments. The company collects the data across each individual mill profile and reports these in an aggregated form in a specific section of the IRF. Includes a data verification protocol, which covers independent NDPE IRF data verification. Information requested for verification includes all sold volumes together with aggregated NDPE as well as mill traceability data (geo-coordinates and mill name). List of refineries with IRF profile is freely available online (400+ entities). 	Palm oil	Global

NAME	SHORT DESCRIPTION	COMMODITY	GEOGRAPHIC FOCUS
Action for sustainable derivatives	 Collaborative initiative for the palm oil derivatives for cosmetics, home and personal care and oleochemical industries. 31 members in 2023. Facilitates sharing of information, data, constraints and solutions. Objective to achieve no deforestation. Objective to uphold human rights in derivatives supply chains Implements a Sustainable Palm Index evaluation for palm oil suppliers on their sustainability achievements. Shared supply chain mapping approach, increasing visibility of supply chains to refineries and mills (over 92% of members' sourcing in 2023) and, to a certain extent, plantations (47.5% of members' sourcing in 2023). Grievance management (support from ASD, plans for collective approach). Land monitoring approach, with Nusantara Atlas, to identify risk of deforestation linked to members' sourcing and monitor cases. Initiative coordinated by BSR and Transitions DD 	Palm oil	Global
Earthworm Foundation Tools for Transformation (T4T)	 Tools for transformation (T4T) kit Online system that allows users to benchmark and improve practices against sustainability indicators covering NDPE requirements Tailored to industry users for easy, quick and relevant application in palm oil refineries, mills and plantations. The system's online self-assessment leads to gap analysis and field-tested resources to close gaps, as well as customized action plans to implement changes aligned with NDPE market requirements. Also helps refineries prioritize engagements with suppliers to improve practices and report progress. 	Palm oil	Global

COMPANY SPECIFIC SYSTEMS

This category covers systems developed and implemented by supply chain actors themselves – they are by nature less cooperative and independent than other types of systems. They tend to include several different components, such as sustainability activities in producing countries, advanced traceability for some of the products sourced by the company and a portal for customer to access sustainability and traceability data.

Some go as far as setting up their own standard(s) and certification system, which include third-party verifications. This is a notable trend in the soy sector. A few have also developed more open traceability platforms, experimenting with blockchain or with a more open and collaborative environment. The list below is non-exhaustive.



NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
Programs		
<u>Cargill Cocoa</u> <u>Promise Program</u>	 Cargill Cocoa Promise initiative launched in 2012 and extended to Cameroun and Brazil in 2020. Promise Cocoa products are made with beans entirely sourced through direct supplies (about 33% of total sourced cocoa). Includes CocoaWise™ BeanTracker (digital tool to manage first mile traceability), CocoaWise 360 (centralised first-mile traceability data platform), CocoaWise™ Insight (monitoring and evaluation), and the CocoaWise Portal (for Cargill's customers). Includes polygon mapping of all plots/farmers in the Cargill Cocoa Promise program. All farmers and plots have a digital record in Farmforce system with a unique ID. Implementation of several control and verification mechanisms along the chain. 	Сосоа
<u>Cocoa Horizons</u> <u>Program</u>	 Program started by Barry Callebaut and governed by The Cocoa Horizons Foundation, a multi-stakeholders and non-profit organization supervised by the Swiss Federal Foundation Supervisory Authority. Traceability system focused on protected areas (farms within 5km of protected areas and cocoa warehouses within 25km), living income and child labor. Mapping of all farmers and cooperatives (direct suppliers) including field GPS polygons. Mass balance and fully segregated models available. 	Сосоа

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
<u>Mondelez Cocoa</u> <u>Life</u>	 Sustainability program launched in 2012 with the goal that Mondelez's brands source 100% of their cocoa volume through Cocoa Life by 2025 (80% in 2022). Based on CFI action plan to commit to deforestation-free sourcing policy in Côte d'Ivoire. Mapping of all registered Cocoa Life farms to identify areas at risk and to ensure cocoa is not coming from protected areas. Deforestation and degradation monitoring risk conducted in partnership with Global Forest Watch (tree cover losses, forest restoration). REDD+ project in Ivory Coast (Nawa region) to pilot a deforestation risk assessment methodology. Implementation of child labor monitoring and remediation across communities. Third-parties verifications to evaluate the impact of the program (IPSOS) and the flow of cocoa from cocoa life communities into the supply chain (Flocert). 	Сосоа
<u>Cargill Smart Soy</u>	 Cargill's deforestation and conversion-free soy solution. Exclusively utilizes Cargill's own originated soy from monitored areas (direct supply). Ensures soy is sourced from regions free of conversion from ecologically important habitats. Employs advanced satellite technology for granular analysis of land use status and soy crops. Provides customers with the flexibility to choose their preferred DCF cut-off date (June 2016 or January 2020) for sourcing assurance. 	Soy
<u>Cargill SoyaWise</u>	 Cargill's traceability platform for customers. Overall goal is to improve transparency in the soy supply chain. Provides certification details and information about sourcing areas. Offers insights into deforestation risks associated with soy supply. Enables customers to trace soy shipments back to specific regions and municipalities. 	Soy
OLAM At Source	 Sustainability management system/platform to inform buyers on sustainability topics. Includes dashboards with social and environmental data. Provides transparency and traceability back to the source of OLAM's products. Includes assurance and third-party verification and compliance evaluation. 	Cocoa, coffee, others

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS
<u>Sustainable</u> <u>Production of</u> <u>Calves program</u>	 Program developed by IDH and Carrefour Brasil Group. With support from the Mato Grosso State government. Designed to support farmers operating calving ranches in Mato Grosso, including with financial and technical support, support to comply with legal requirements. Ranches monitored against several environmental and social requirements (deforestation with PRODES, IBAMA embargo, slave labor, etc.). Includes a traceability component, with information on date and geolocation of ranch of birth associated with individual animals, as well as all ranch transfer records and use of QR codes by slaughterhouses. 	Cattle
Open platforms		
<u>Tony Chocolonely</u> <u>Open Chain</u>	 At the initiative of Tony's Chocolonely, developed as an open collaboration platform bringing together industry players. Focuses on 5 sourcing principles (premium, long-term business relationships, strong cooperation, production and quality and traceability). BeanTracker software system built with ChainPoint technology (digital platform) allowing bean traceability to the origin (data collection along the cocoa supply chains, reporting and analytics). GPS mapping of all plantations with polygons (GPS coordinates, volumes/farms, etc.). Deforestation risk assessment (uses Satelligence for land use cover change and deforestation monitoring, cross-reference multiple source of information including CFI 2019 protected area maps, Google Satellite Imagery, Sentinel-2 and Landstat 8 Satellite Imagery). Use of CLMRS (child labor monitoring and reporting system) tool developed by International Cocoa Initiative (ICI) and Nestlé for traceability of social data. 	Сосоа
JBS Pecuaria Transparente (Transparent Livestock)	 Open, voluntary platform that can be used by producers can use the platform to evaluate their cattle suppliers. Initiated by JBS and developed by Ecotrace. Uses blockchain technology: JBS only has access to consolidated information, not sensitive information. Monitors deforestation, invasion of indigenous lands, invasion of environmental conservation units, area embargoed by Ibama, forced labor, Quilombola territories. Cattle suppliers and their suppliers must follow the same socio-environmental criteria than the sectoral protocol for monitoring suppliers (Beef on Track/Boi na Linha program). Accredited partners perform checks on socioenvironmental criteria. 	Cattle

NAME	SHORT DESCRIPTION	GEOGRAPHIC FOCUS		
Company certification				
ADM Responsible Soybean Standard and system	 ADM inspection program with the main objective of promoting environmentally and socially responsible agricultural production. Result of research and benchmark studies carried out on existing standards, as well as ADM's own vision and values. Based on these corporate ADM policies: Code of Conduct, Human Rights Policy, Commitment to No-Deforestation. Includes three chain of custody models: Credits, Mass Balance and Segregation. 	Soy		
<u>Amaggi Origins</u> <u>Field Standard</u>	 Developed based on internationally recognized certifications such as RTRS, ProTerra, ISCC, 2BSvs, and BCI, as well as procurement requirements from clients, governments, NGOs, internal norms, and institutional commitments. Aims at ensuring deforestation and conversion of native vegetation-free production and evaluating over 60 socio-environmental indicators. Includes book & claim, area mass balance, mass balance and segregated chain of custody models. 	Soy		
<u>Cefetra Responsible</u> <u>Soya (CRS)</u> <u>Standard</u>	 Created in collaboration with Control Union Certifications (CU) in 2008 to promote ecologically sound and socially responsible soy production. Covers legal compliance, zero-conversion/deforestation policies, transparency, and inclusion of small farmers among others within seven main principles. The standard adopts the area mass balance chain of custody model. 	Soy		
Cargill Triple S (Sustainably Sourced and Supplied)	 Cargill's own sustainability certification program (Sustainably Sourced and Supplied: Triple STM) Applicable to soy, corn, canola and cotton Focus is on five main sustainability areas in South America: sustainable land use, good agricultural practices, community relations and human rights, continuous improvement, and measuring greenhouse gas emissions. Qualified Triple S farms follow specific principles, including a baseline date for land use change set at January 2008 to avoid deforested or converted areas post that date. Cargill Triple S soy, corn, and canola products adhere to a traceable and third-party verified single-site Mass Balance chain of custody while Triple S cotton has its own specific segregated flow. Requirements include an audit program and procedure. Certificates of compliance are delivered, and farm level verifications are conducted by an independent partner. 	Soy, others		

COMMERCIAL TOOLS

Lastly, it must be acknowledged that there are a lot of available commercial digital systems available to support actors in implementing supply chain traceability (or at least mapping), forest monitoring and legality/sustainability monitoring – or a combination of those activities. There is a growing and very competitive market, which tech companies invest in by developing tailored and/or unique value proposition. Each tends to have its own specificities, some specialising in farmer related data in producing areas, others in forest monitoring, or blockchain solutions, end-to-end tracking up to customers, etc.

The sector is very competitive and there is rarely in-depth publicly available information on the features available and methodologies used by these providers. This section is therefore only mentioning some providers which are particularly active in the commodities covered by this study. This is not intended to be an exhaustive list and the mention of specific providers does not imply any specific endorsement of their effectiveness or suitability for specific contexts, including EUDR compliance. Each tool offers unique features and capabilities, and their applicability can vary significantly depending on specific industry requirements, regulatory landscapes, and organizational goals.



Organizations seeking to enhance their traceability efforts are encouraged to conduct thorough research and evaluation to select tools that best fit their operational needs and strategic objectives.

The list below is non-exhaustive.

NAME
Agri Trace CAN
Agridence
Agroideal
Agrotools
Conecta
Earthworm ¹⁹ ZDC Soy methodology
Farmforce
Koltiva
LiveEO
Nice Planet
Orbify
Palmoil.io
Rainforest Alliance Palm Industry Platform (PIP) ²⁰
Safe Trace
Satelligence
Sourcemap
Starling

19 Earthworm is a not-for-profit organization.20 Rainforest Alliance is a not-for-profit organization.

6 DETAILED DESCRIPTION OF A SELECTION OF INTEGRATED SYSTEMS

This section includes a deeper focus into a selection of 10 tools from the integrated systems category:

Palm Oil	RSPO, ISPO, MSPO
ظی Soy	Visec, ProTerra, RTRS
Cattle	Selo Verde, Visipec
🗑 Сосоа	Rainforest Alliance, Ghana Cocoa Management System

They have been chosen as particularly advanced in terms of data collection, verification and assessment relevant to EUDR, and with the objective of covering different commodities and sub-categories of integrated systems.

They have been more extensively examined, in particular in view of EUDR requirements. Beyond an overall description, they contain a description of data management and data sharing elements as well as elements on the following EUDR specific data points:

- geospatial data
- traceability
- legal coverage
- deforestation assessments.

Content has been developed based on open-source information published by the system owners as well as relevant reports describing and assessing them. It is reinforced through input from in-depth interviews conducted with selected stakeholders, including systems owners themselves. These detailed descriptions do not constitute in-depth benchmarks or audits of the proper functioning of those systems.



This constitutes an initial step at building increased and streamlined visibility and knowledge of those systems: we consider that it would be beneficial to

- 1. extend standardized detailed descriptions to other relevant systems and well as
- 2. develop more in-depth, extended benchmarks for those systems.

ROUNDTABLE ON SUSTAINABLE PALM OIL (RSPO)

OVERALL DESCRIPTION

Roundtable on Sustainable Palm Oil (RSPO) works as a multi-stakeholder initiative aimed at promoting the production and use of sustainable palm oil. RSPO is the main global voluntary certification standard for the use of palm oil. It covers around 20% of palm oil worldwide, and it has been developed in 2004 and covers the whole value chain for palm oil.

RSPO certification relies on the use of third-party accredited auditors. Palm oil producers must comply with RSPO Principles and Criteria. The system requests full compliance with all criteria in order to be certified or an approved plan to mitigate non-compliances. RSPO has four chain of custody models for certified palm oil: identity preserved, mass balance, segregation and credits (book and claim system). Each year, RSPO members must submit an annual report with the progress in producing and sourcing RSPO certified palm oil.

DATA MANAGEMENT

Information on certified trade can be accessed by certified members through the online portal <u>Palmtrace</u>. The online portal acts as a marketplace medium for buyers to buy/sell RSPO certified volumes. RSPO is in the process of upgrading its digital tools to an upgraded platform called Prisma ("Palm Resource Information and Sustainability Management") in a consortium project together with Agridence and NGIS.

RSPO's intention is that the new PRISMA system is ready by the end of 2024, to allow for full traceability to plot of land level, including the uploading of polygons, as well as all the upload of all relevant information to demonstrate compliance with EUDR – on a voluntary basis.

EUDR DATAPOINTS

Geospatial data

RSPO is requiring the geolocation of fresh fruit bunch (FFB) origin, but not necessarily via polygons. Geolocations are available through the <u>GeoRSPO platform</u>.

It is not clear which definition is applied for the point of origin, and whether it covers plot coordinates or farm gate coordinates. The definition of "origin" is not necessarily aligned with "plot of land" from the EUDR.

A first year transition period is also allowed for newly certified mills, which gives them a one year deadline to collect geolocation points from smallholders they source from. Under the mass balance model, RSPO also requires that the geolocation of FFB origins for the non-certified part of the mix is collected, either directly by the mill or though the intermediaries (criteria 2.3 of the 2018 RSPO Principles & Criteria).

Traceability/tracking

RSPO certified palm oil can be traded under different types of chain of custody models, including: identity preserved, segregated, mass balance, and book and claim. The identity preserved model ensures that each batch of certified palm oil is kept separate throughout the supply chain, while the segregation option allows for the mixing of certified palm oil from different certified sources. The mass balance option allows for mixing certified palm oil with non-certified palm oil during processing. However, the volume of Certified Sustainable Palm Oil used and traded is monitored and accounted for, with the aim is to ensure that the overall volume claimed corresponds to the volume purchased or produced.

As mills (and smallholder groups) are holding production level certificates under RSPO, identity preserved palm oil is linked to a specific certified mill, while segregated palm oil can be linked back to multiple certified mills. In turn, mills are collecting origin data of FFB, including under the mass balance model (see above).

EUDR DATAPOINTS

Legal coverage

The RSPO Principles & Criteria covers compliance with relevant legislations, which include land tenure and land use rights, labor, agricultural practices, environment and processing practices. RSPO also developped specific indicators and guidelines around FPIC. There might be some gaps in relation to third-parties rights as well as tax, anti-corruption, trade and customs regulations.

Under the mass balance model, RSPO also requires some legality documentation to be collected by the mill for the share of non-certified palm oil, either directly or via sourcing intermediaries. This includes proof of ownership or right/claim to the land and planting, operating and trading licenses where applicable (criteria 2.3 of the 2018 Principles and Criteria).

Deforestation assessment

RSPO Standard is not using the exact same formulation and definitions as the EUDR on deforestation topics. Types of forests are defined in a different way and may allow the use of land which is affected by deforestation or degradation – as defined by EUDR. In a nutshell, RSPO requires that land clearing has not damaged primary forest since 2005 and HCVs or HCS forests since 2018 (criterion 7.12). RSPO allows for compensation for deforestation in some specific cases, which is not compliant with EUDR requirements.

REFERENCES AND KEY RESOURCES

- Brinkmann Consultancy, Pasmans Consultancy (April 2023). <u>RSPO-Report-Gap-Analysis-EU-</u> <u>Deforestation-Regulation.</u>
- RSPO (August 2023). RSPO and the EUDR Implementation: Better Prepared, More Sustainable.
- Proforest (2023). TFA EU Deep Dives Geolocation & Traceability Session Palm Oil
- Zu Ermgassen, E. et al. (April 2022). Addressing indirect sourcing in zero deforestation commodity supply chains. Access **here**.
- EFECA (unknown date). Comparison of the ISPO, MSPO and RSPO Standards. Access here.

INDONESIAN SUSTAINABLE PALM OIL (ISPO)

OVERALL DESCRIPTION

The ISPO standard, introduced in 2011 by the Government of Indonesia, is designed to ensure that all Indonesian oil palm growers, not just those exporting to foreign markets, conform to higher agricultural standards. This certification is mandatory and covers land legality, good agricultural practices, conservation, labor rights, social responsibility, transparency, and sustainable business improvement. This scheme was launched in March 2011 and is owned by the government under Ministry of Agriculture. Therefore, the standard is attached as an annex in the <u>Ministry of Agricultural Law No. 38 of 2020.</u>

This certification is mandatory for plantation companies and their smallholders, but not required for independent smallholders. ISPO certified areas cover 5,45 million ha with nearly 800 plantation organizations and 38 million tonnes of palm oil produced annually (Indonesia palm oil facts). The total area of palm oil in Indonesia as of November 2023 is 16,83 million ha according to the <u>BPS statistic</u> data which means ISPO certified area covers 32% of palm oil area – other estimations range around 42% of the palm oil area (Proforest, 2023). The scheme allows traceability models of segregation and/or mass balance.

Compliance to this scheme does not impact sales or trading since it is solely aimed at fulfilling regulatory requirements, therefore there is no labelling scheme associated to the standard. The standard is currently being reviewed - it is not known when the new standard will be published, as the public consultation process is not publicly announced.

DATA MANAGEMENT

Data management is currently the major challenge for ISPO, necessitating government's intervention for data centralisation from various stakeholders. ISPO does not have its own data platform as of March 2024, however there is a plan to develop a consolidated data platform for ISPO certified supply chains.

The current practice is relying on spreadsheet and other digital records set up by private companies to record trade data which are therefore not shared down supply chains nor publicly available. Only certification bodies auditing palm oil companies get access to the data. Therefore, auditing plays a significant role to ensure that data being recorded is accurate.

Data being recorded

In order to ensure the validity of ISPO certified products, the following information must be provided and are recorded: name and address of seller and buyer, shipping destination, product identification, including the supply chain model applicable, amount of shipped products, loading date, date of transport document/shipping docs, unique ID and ISPO certificate number.

This information is made available in the delivery notes or shipping/sales documents. Accounting records at certified companies level also must include relevant input and output information on trade (invoice numbers, date, amounts, etc.).

UDR DATAPOINTS

Geolocation data

There is no requirement to include plot geolocation.

Traceability/tracking

Segregation and mass balance models are available under ISPO. Certified companies must record their direct suppliers' (name, address) as well as product information for purchases. There is no requirement to pass supply chain/trade information to downstream members of the supply chain. There is no centralised digital tracking system.
Deforestation monitoring

Contrary to the EUDR, ISPO only mentions 'natural forest' and is not specific to primary forest or young regenerating forest. ISPO only addresses no conversion from natural forest and peatlands and does not address no conversion from other natural ecosystems, or naturally regenerating forest.

Forest monitoring requirement is mentioned in Criteria 3.7 as HCV monitoring, the intent is covered as HCV forests, but it is not specific to deforestation monitoring. Criteria 3.7 requires HCV maps, procedures and management monitoring report to be made available.

Legal compliance

ISPO is based on existing Indonesian legislation by design, which is why it is also referred to as Indonesia's palm oil legality standard. ISPO principles are covering licensing system, plantation management, palm oil cultivation and processing, environmental management as well responsibilities for workers and communities. Legal operations and taxes and fees are fully covered in Principle 1, Principle 2, and Criteria 6.5.

OTHER

ISPO requests full compliance with all criteria in order to be certified or an approved plan to mitigate non-compliances.

The government of Indonesia is providing financial support mechanisms for smallholders to become ISPO certified. However, the certification scheme is not yet mandatory for independent smallholders.

- Ministry of Agriculture Law No.38 of 2020. <u>https://peraturan.bpk.go.id/Details/201269/permentan-no-38-tahun-2020</u>
- Indonesia palm oil facts webpage. https://www.indonesiapalmoilfacts.com/ispo
- Indonesian BPS Statistic Data (Volume 16, 2023). Indonesia Oil Palm Statistics. <u>Report</u>.
- Proforest (2023). TFA EU Deep Dives Geolocation & Traceability Session Palm Oil
- EFECA (unknown date). Comparison of the ISPO, MSPO and RSPO Standards. Access here.

MALAYSIAN SUSTAINABLE PALM OIL (MSPO)

OVERALL DESCRIPTION

MSPO was initiated as a voluntarily system through the national certification standard launched in 2013 and became mandatory starting in January 2020. According to the Malaysian Palm Oil Board, the certification was launched to help small and mid-range farmers who cannot afford RSPO certification. It has no membership fees.

Government allocates incentive funds to those who have been certified or applied for the certification before January 2020. The cost to be certified is based on appointed certification bodies audit fees. For smallholders it is 100% free (this includes training, PPE, chemical/fertilizers storage, est. The fees are borne by the Malaysian Palm Oil Board MPOB). Independent smallholders are grouped and managed by an MPOB officer, a dealer or a mill as group manager.

DATA MANAGEMENT

The dedicated digital platform, <u>MSPO Trace</u>, contains a good level of relevant information (e.g. certification body (CB), company name, entity name, ID, number of smallholder or group manager, state, certified area, planted area, audit stage, issue & expire date, GPS location, latest audit report, certification). It has been developed in part to facilitate traceability back to plantations. Some information is publicly available, while supply chain specific information is accessible only to MSPO certified entities.

EUDR DATAPOINTS

Geospatial data

Geolocation information can be found in the <u>MSPO Trace</u> platform (both for stakeholders and smallholders). However, those are simple points, and it is not clear whether they represent the centre of the plot, or a point on the boundary of the plot.

Group managers bear the responsibility to collect smallholders' plot location. Dealers or mills (large company) normally collect smallholders plot data through collaboration with NGOs/social enterprises. GPS location may not be available for some CBs.

Traceability/tracking

Chain of custody requirements, in particular for segregated palm oil, is maintained in records at each entity of the supply chain. Therefore, records and information exist but are not proactively passed down to buyers along the supply chain, which therefore do not have visibility on the origin of the certified palm oil they are purchasing.

The MSPO Trace platform has been developed in view of enabling traceability back to plantations, through the recording of trade information. It is not fully clear how functional the system currently is.

Legal coverage

MSPO requires compliance with national laws, regulations and policies, which include land tenure rights, land use planning, biodiversity protection, protecting HCV areas, health and safety, human rights and labor rights.

Certified companies must keep appropriate records. Practical implementation and controls over MSPO requirements are not entirely clear.

Deforestation assessment

Requirements for deforestation are not clearly defined and some deforestation is still allowed. A cut-off date has been set as 31 st December 2019; after this date no conversion of natural forest, protected areas, and HCV can take place. New plantings or establishments need to avoid specific types of land, unless allowed by state legislation. However, it is unclear what happens to plantations with deforestation events after the cut-off date.

OTHER

Knowledge of best practices is one of the biggest challenges for smallholders. The absence of premium prices is also limiting uptake and proper implementation.

- Proforest (2023). TFA EU Deep Dives Geolocation & Traceability Session Palm Oil
- EFECA (unknown date). Comparison of the ISPO, MSPO and RSPO Standards. Access here.

VISEC

OVERALL DESCRIPTION

ViSeC (Vision Sectorial del Gran Chaco Argentino) is a national platform in Argentina, led by the Argentina oilseed oil industry association (CIARA – Camara de la Industria Aceitera de la Republica Argentina) in collaboration with TNC, Peterson Consultancy, and TFA. It is aiming to reduce environmental impacts, particularly deforestation, in the Gran Chaco and other regions.

ViSeC system relies on its traceability tool, managed by the Rosario Stock Exchange for grain (Bolsa de Comercio de Rosario), and designed to monitor the soy supply chain nationwide, ensuring deforestation-free origins. Scheduled for launch in April 2024, the platform has undergone successful pilot tests with traders like Bunge, Viterra, and LDC. Membership to ViSeC is voluntary and is currently comprised of 35 organizations, spanning various supply chain levels. Though retailers are not currently members, they are involved in discussions. ViSeC is aiming to engage 100% of the Argentinian soy value chain through endorsement by industry associations, even if it remains a voluntary tool.

ViSeC's governance is overseen by a Steering Committee, tasked with directing and managing ViSeC, in alignment with members' interests. This committee is supported by three Working Committees (Technical, Communication, and Finance), an Advisory Committee, and a Secretariat for operational functions. Expansion efforts aim to encompass additional commodities like beef, with Consorcio ABC and VesicaBiz onboard, along with plans for expansion into countries like Paraguay. Development funding is sourced from investors and members.

DATA MANAGEMENT

ViSeC system aims to provide thorough shipment details upon soy export with the issuance of shipping certificates, covering product descriptions, country of production, geolocation of raw material plots, production timelines, supplier information, and compliance verifications.

A key element of the traceability mechanism is the integration of Argentinian electronic consignment notes, or "cartas de porte". Those waybills are mandatory in Argentina for the transportations of grains by road and rail. Their integration in the ViSeC system allows to trace soy from production units to export points. They include RENSPA codes and sustainability data.

Access to the system starts with first aggregation points initiating registration of trade, and all the way up to export. This data access approach is coupled with measures to protect producers' confidentiality, disclosing satellite images selectively and autonomously blocking soybean commercialisation in verified deforestation cases.

DATA MANAGEMENT

Information recorded in ViSeC system and consolidated for shipping certificates undergo third-party verifications to ensure regulatory compliance, though farm audits are excluded.

Certain details may not be publicly disclosed, and provisions exist for authorities to access necessary information, ensuring ViSeC's alignment with regulatory transparency standards. Whether consignment notes will be shared downstream (after export) as such also remains unclear, due to potential confidentiality concerns. While ViSeC's operations undergo final software adjustments, plans are underway to grant access to all stakeholders by the second semester of 2024.

Geospatial data

ViSeC system incorporates geospatial information on plots of land linked to the production of soybeans. It identifies production units using information from the National Sanitary Registry of Agricultural Producers (RENSPA), including their geographical limits, via RENSPA ID codes. These codes should be included in the electronic consignment notes (cartas de porte). While the system is theoretically aligned with EUDR geospatial requirements, there might be challenges due to some RENSPA records not being updated by farmers as well as electronic consignment notes not including RENSPA ID; however, efforts are underway to rectify this.

Traceability/tracking

ViSeC traceability system for soy relies on recording mandatory electronic consignment notes, known as "cartas de porte," which provide trade information between soy commercial entities, between production units up to export points.

All parties involved at any point in the soy trade flow (collection points, factories, and ports) should be enabled in the ViSeC System to record trade data and demonstrate internal processes that ensure traceability and segregation of relevant merchandise. All information provided by commercial operators is then compiled into shipping certificates, along with documentary support and third-party verification evidence.

Legal coverage

ViSeC is committed to fulfilling all the necessary conditions outlined in the EUDR regulation, including legality aspects. However, it is important to note that there is currently no verification protocol in place for farms. ViSeC plans to implement a country-level declaration or self-declaration by farmers regarding social aspects of legality. However, the details of this process are still unclear.

Deforestation assessment

The tool for deforestation assessment within ViSeC integrates a land-use monitoring module based on collected geolocation data. It relies on third-party entities proficient in satellite image analysis for deforestation monitoring. Several third-party entities can assess deforestation and informal land changes post-2020, and their results are shared with the ViSeC system. Compliance with both EUDR and ViSeC requirements is evaluated, and productive units meeting these criteria are considered free of deforestation and thereby accepted into the ViSeC system.

- ViSeC National Platform
- Argentina tax authority AFIP (Administración Federal de Ingresos Públicos) webpage on <u>Electronic</u> <u>Consignment Note – Carta de Porte</u>
- Merco Press (March 2024). Argentina leads in complying with EU Deforestation Legislation. Article.
- Collaborative Soy Initiative (October 2023). EU Compliant Soy with Impact: Guiding companies through the guidelines.

PROTERRA

OVERALL DESCRIPTION

ProTerra's operations are governed by the Netherlands-based ProTerra Foundation and are overseen by its Secretariat and Board of Directors, which receive strategic guidance from the Stakeholders Council. Private companies are invited to join the ProTerra Network for the exchange of best practices. The Standards and Certification Committee maintains program integrity by updating standards and addressing complaints.

The ProTerra Standard, originating from the Basel Criteria on Responsible Soy, seeks to improve sustainability in food and feed supply chains by endorsing good agricultural practices, ensuring traceable ingredients, and advocating for fair treatment of workers and communities.

Companies voluntarily adopt the ProTerra Standard. Latest version 5.0, along with variants for European market, smallholders, and insect-based products, offers three chain of custody models: Identity Preserved, Segregation, and Mass Balance. In 2020, 3 million tonnes of soy were certified as ProTerra.

DATA MANAGEMENT

Sustainability and trade related data are mostly captured and stored by certificate holders themselves. ProTerra collects data, including geolocation, primarily through the certification process.

ProTerra does not have a centralised IT system or platform for recording transactions, certified organizations may request the issuance of a Traceability Certificate of Compliance (TCC) for individual transactions by their Certification Body, to share with buyers, although this is not mandatory.

EUDR DATAPOINTS

Geospatial data

Certified organizations must keep records of agricultural production for 5 years, including geolocation of land plots, especially for areas exporting to countries with specific requirements (e.g. European Union). For plots over 4 hectares, geographical location must be provided using polygons if exporting to such countries. The format for recording this data is unspecified. TCCs do not include geolocation data.

Traceability/tracking

The ProTerra Standard ensures traceability of certified materials or products, through chain of custody requirements, but without this data being centralised or shared along supply chains through an IT system or platform. It mandates specific documentation and procedural standards, including the inclusion of the ProTerra Logo, traceability system details, and lot numbers in all Chain of Custody documentation.

Certified organizations are required to assign lot numbers to every stage of their inventory, ensuring linkage to traceability information in documents like invoices or TCC. It is important to note that TCCs do not provide plotlevel traceability by themselves. Systems and procedures are in place to prevent the mixing of ProTerra-certified material during transportation.

Legal coverage

ProTerra Standard (5.0) ensures compliance with both regulatory and sustainability criteria, including key risks - such as deforestation - associated with agricultural activities. Principle 1 mandates adherence to laws, international conventions, and the ProTerra Standard. Principle 4 encompasses biodiversity conservation, effective environmental management, and environmental services, while Principles 2 and 3 address human rights and community relations. Note that the mass balance model does not include legality controls on the share of soy from non-certified operations entering the mix.

Deforestation assessment

Certification Bodies are required to carry out satellite imagery assessments as part of the deforestation assessment process, aimed at verifying compliance with indicator 4.1.1, which focuses on HCV areas that should not be cleared or converted after 2008. The ProTerra standard employs an earlier cut-off date and encompasses not just deforestation but also land conversion for industrial and commercial purposes.

OTHER

ProTerra soy certification market is declining, with a shift in focus towards sugar due to changing demand dynamics.

ProTerra's emphasis on non-GMO products involves implementing traceability and segregation measures from the outset, which can facilitate compliance with the EUDR

- ProTerra Foundation webpage, Certification Protocol V4.0 and Standard Version 5.0
- ProTerra (December 2023). ProTerra Standard V5 and the European Regulation on deforestation-free commodities. News article.
- Profundo P. Boev and J.W. van Gelder (December 2023). <u>Setting a New Bar for Deforestation and</u> <u>Conversion-free Soy in Europe.</u>
- Efeca (date unknown). Soya certification options. Report.

ROUND TABLE ON RESPONSIBLE SOY (RTRS)

OVERALL DESCRIPTION

The Round Table on Responsible Soy (RTRS) is an organization that brings together stakeholders from producers, industry, trade and finance, and civil society organizations. It aims to foster responsible growth in soy production, trade, and usage through multi-stakeholder dialogue and the development of a global certification standard. RTRS offers a comprehensive certification standard for soy and corn, catering to various end-uses like human consumption, animal feed, and biofuels. This standard, with five principles and 108 mandatory indicators, ensures environmentally sustainable, socially responsible, and deforestation-free production practices. Mass Balance and Credits are the main chain of custody models of RTRS. It is estimated that RTRS was covering 1.25% of global soy production in 2021.

Governance within RTRS is structured around the General Assembly, comprising all participating and observer members, and the Executive Board, which oversees standard implementation and reflects equal representation from the three constituencies. The Secretariat executes decisions made by the Executive Board, ensuring effective governance and decision implementation.

Operating on a voluntary basis, RTRS grants members free access to an Online Platform for transactions and claims, while non-members organizations must pay an annual fee. The standard undergoes periodic revisions (every three to five years). It also encourages producing countries to create local interpretations through a Guidance for National Interpretation.

DATA MANAGEMENT

RTRS collects data, including geolocation, primarily through the certification process, and maintains an Online Platform managed by ChainPoint for traceability and recording of RTRS certified material transactions. The platform records RTRS Credits separately from physical flows, providing traceability records for soy under various flow methods.

Transactions of certified volumes are recorded in the Online Platform, and companies can access certificates automatically from this platform. Certificates contain unique codes and comprehensive transaction information, though specific information requirements are unclear and may not fully align with EUDR, lacking mandates for production dates/periods or geolocation. Updates are expected to clarify information recording. The Online Platform aims to complement operators' due diligence systems, ensuring traceability and EUDR compliance for RTRS certified volumes rather than functioning as a comprehensive information collection system.

EUDR DATAPOINTS

Geospatial data

The certification unit as defined in the RTRS standard covers the entire farm, including cultivated and non-cultivated areas, as well as infrastructure and facilities. While the Group Standard mandates the collection of geographical coordinates for member farms/sites, this requirement is not explicitly stated in the Production Standard. Key aspects such as the format of geographical data, specification of polygon or point data for plots exceeding 4 hectares, and the duration of data retention are not clearly defined within the standard. Presently, geolocation data is not captured in the Online platform and remains unshared downstream, including in transaction certificates. Although platform updates may incorporate recording capabilities for GIS data, there are no expectations for downstream sharing of geolocation data.

Traceability/tracking

Certified soy producers adhering to RTRS standards must meet additional CoC requirements, extending to downstream actors making RTRS claims regarding soybean products. The CoC Standard specifies traceability systems for managing RTRS-certified material inventories, with mass balance and credits as primary models, the latter not involving physical product transactions. Transaction registration on the Online Platform ensures claims traceability, with CoC-certified facilities mandated to possess an account and sellers mandated to record certified volumes traded. Companies access certificates automatically from the Online Platform, containing unique codes and comprehensive transaction information. Invoices/transport documentation must include seller and buyer identification, issuance date, product description and quantity, and RTRS chain of custody certificate, although it is unclear if this information will be recorded in the platform. Presently, the Online Platform does not require geolocation data recording.

Legal coverage

RTRS criteria includes compliance with applicable laws of the country of origin and good business practices regarding labor conditions, community relations, environmental responsibility, and agricultural practices. However, it does not explicitly address tax, anti-corruption, trade, and customs. Upcoming updates to the standard are expected to address these areas.

Deforestation assessment

The RTRS standard does not integrate a land-use monitoring module utilising geolocation data. However, it provides macro-scale maps categorising areas based on biodiversity and legislation. There are minimum conversion levels allowed by the standard – this does not meet EUDR requirements.

OTHER

Based on stakeholders' feedback, RTRS acknowledge that many soy traders and operators already have systems for collection and data management relevant to EUDR implementation. Therefore, it is considering whether mandating and including these features in the RTRS Online Platform would lead to the duplication of tasks for certified companies.

The availability of certified material is limited, with RTRS-certified soy accounting for just a small fraction of the total global soy production, amounting to only 1% in 2019. Changes for the adoption of an updated RTRS standard aligned with EUDR are expected at the end of 2024.

- RTRS <u>Standard for Responsible Soy Production V4.0</u>, <u>Chain of Custody Standard V2.3</u>, <u>Group and Multi</u> <u>site-Certification Standard V3.21</u>.
- RTRS webpage. How to uptake RTRS-certified material, RTRS
- Profundo P. Boev and J.W. van Gelder (December 2023). <u>Setting a New Bar for Deforestation and</u> <u>Conversion-free Soy in Europe.</u>
- Solidaridad (April 2020). Responsible Soy 10 Years On, Solidaridad. News article.
- Efeca (date unknown). Soya certification options. Report.

SELO VERDE

OVERALL DESCRIPTION

SeloVerde aims at assuring compliance with local legislation, enhancing traceability in agricultural production, halting illegal deforestation and promoting environmental and land regularisation. It was launched in the State of Pará in 2021 for cattle and soy and will be officially launched in 2024 in the State of Minas Gerais for soy, coffee, wood and timber products.

SeloVerde integrates information from various official state and national databases held by environmental, agricultural, sanitary, and enforcement agencies in Brazil.

The State governments of Pará and Minas Gerais are the owners of the respective systems (<u>SeloVerde-PA</u> and <u>SeloVerde-MG</u>), while the Federal University of Minas Gerais (UFMG) is the developer and responsible for maintaining the platform, in close collaboration with the State authorities.

DATA MANAGEMENT

The SeloVerde platform collects, cross-checks and validates information from official databases such as satellite-based deforestation monitoring, data on indigenous and conservation areas, environmental embargoes, slave analogous labor practices, cattle movement (GTA - Guia de Trânsito Animal - Animal Tracking Guide), crop production and analysis of legal compliance with the Brazilian Forest Code for each rural property in the state (CAR - Cadastro Ambiental Rural). The SeloVerde platform encompasses over 300 thousand properties in Pará and approximately one million in Minas Gerais. It is updated daily.

SeloVerde is publicly available, and any user can access information on each registered farm, either through searching a specific CAR reference (unique identifier number for every farm in Brazil) or through visually browsing the map. Downstream buyers in Brazil can utilise SeloVerde to verify their suppliers' compliance before making purchases. While supply chain information is not publicly visible to comply with Brazilian legislation on personal data protection, it is checked behind the scenes.

Any inconsistences detected are red flagged. Only competent authorities can access the entire information on the platform.

EUDR DATAPOINTS

Geolocation data

SeloVerde is relying on Brazil's Forest Code and Environmental Rural Registry (CAR), which is a mandatory registration of all rural properties in the country. Each CAR is a georeferenced polygon that represents an independent agricultural production unit.

The CAR code is a unique identifier for the whole farm where different commodities can be produced, the whole farm is georeferenced, and the compliance of the whole farm will be assessed (including where different commodities are produced on the farm). Identifying the entire production area under the CAR code is a crucial step in attributing responsibilities for any irregularities within the production unit and linking the property to the network of suppliers/buyers.

Registration to the CAR registry is a self-declaration by the owners of the property. Brazilian authorities have been slow in validating and verifying the data – only 1% of Brazil's CAR Codes have been validated so far. In order to address this issue, the CAR 2.0 platform was developed and integrated with SeloVerde, aiming to provide automated analyses to speed up the validation of rural registries. Such verification is crucial for land regularisation purposes and for identifying farms that encroach upon protected territories, such as indigenous lands.

Trade data

SeloVerde records cattle movement through the GTA database, which allows to link direct and indirect supply chain actors. Cattle movement is reported in batches, not individual animal traceability. This information cannot be accessed publicly, but the university (UFMG) runs checks "behind the scenes" and red flags suppliers that present compliance issues. All analyses are based on the cut-off date for the Brazilian Forest Code (i.e. 2008) and can be adjusted to 2020 to comply with the EUDR.

Deforestation monitoring

For deforestation monitoring, SeloVerde uses official information provided by the National Institute for Space Research (INPE), which provides updated information about deforestation and land-use twice a year. UFMG also develops its own maps with higher resolution (5 meters), to identify details and features, particularly in areas of permanent preservation within private properties (e.g., along rivers, springs, steep slopes, hilltops, etc).

Legal compliance

In terms of legal coverage, SeloVerde checks legal compliance with the Brazilian Forest Code, overlap with indigenous territories, traditional peoples' lands and conservation areas, as well as the existence of environmental infractions, fines, embargoes, seizures and cases of slave analogous labor practices.

OTHER

SeloVerde stakeholders raised concerns about the level of transparency required by the EUDR, as it involves the sharing of sensitive commercial information currently not disclosed to stakeholders. Although reports provided by SeloVerde for each rural property preserve sensitive personal and commercial data, its developers are working on implementing protected identifier codes, to be accessed solely by specific levels of supply chain entities, if necessary.

- Amsterdam Declaration Partnership, Governo do Para, Universidade Federal de Minas Gerais (2023). Meeting Deforestation Requirements – Exploring the role of SeloVerde, Pará and Minas Gerais in meeting emerging market requirements on legal compliance and zero deforestation. Access: <u>https://ad-partnership.org/wp-content/uploads/2023/02/Policy-Brief-Selo-Verde-EU-UKregulation-v2023-0125.pdf</u>
- Selo Verde <u>webpage</u>.
- Selo Verde (date unknown). Brazil's first public and transparent traceability platform to access deforestation in the soy and cattle supply chains. **Brochure**.
- Rajao, R. et al. (July 2020). The rotten apples of Brazil's agribusiness. <u>https://www.science.org/doi/10.1126/science.aba6646</u>

VISIPEC

OVERALL DESCRIPTION

Visipec's platform is a voluntary, free-of-charge, add-on traceability system for Brazilian meatpackers (with restricted, permissioned access). It is still in a pilot phase.

It is a joint effort of the National Wildlife Federation and AVP, based on a methodology developed by scientists and researchers in the Gibbs Land Use and Environment Lab at the University of Wisconsin-Madison. The development was informed by the multi-stakeholder (GTFI in Brazil and was further refined in close coordination with industry stakeholders with support from Amigos da Terra- Amazonia Brasileira (AdT). It is an add-on tool for existing deforestation monitoring and supply chain management systems used by meatpackers to inform their purchase decisions. It is designed to integrate and enhance existing systems by expanding deforestation monitoring to indirect suppliers, which represents a significant challenge for improving traceability systems in the cattle sector. Meatpackers provide CAR references of their direct suppliers, which enables Visipec to conduct further identification and assessment of indirect (tier 2) suppliers against a range of environmental criteria.

It provides meatpackers with greater visibility into their supply chains to identify the indirect suppliers linked to their direct suppliers to help enhance existing deforestation monitoring systems and improve sourcing decisions. It is estimated that monitoring direct suppliers by matching CAR and GTA addresses covers around 41% of deforestation for cattle in the Brazilian Amazon, and that the use of Visipec adding controls for tier 2 suppliers (in other words, direct suppliers' own suppliers) is adding another 48% of coverage (see Visipec short presentation "Visualizing cattle supply chains in Brazil to enhance traceability and strengthen deforestation monitoring"). Its scope is limited to Brazilian meatpackers, it is not accessible to other types of stakeholders.

DATA MANAGEMENT

Visipec is currently set-up for tracking cattle back to the first tier of indirect suppliers, which means that it is not handling all indirect suppliers that may participate in the supply chain. Information is only available to meatpackers that received access to the system – use and access is restricted to this target group.

Access to information is very limited as it is only available to meatpackers. It seems that supply chain information cannot be pushed to/pulled from other digital systems of other parties. Aggregated information and summary reports, which should be sufficient for the purposes of determining which meatpackers are effectively addressing indirect suppliers (similar to what is currently available for monitoring direct suppliers), may be shared with other companies in the value chain or with other stakeholders.

Visipec draws information from other public monitoring and registration systems in Brazil and therefore highly depend on the data accuracy of these systems. Still, it implements its own data consistency and cleansing process.

EUDR DATAPOINTS

Geolocation data

Visipec is not directly collecting geospatial data on cattle farms and ranches. It is relying, as most monitoring systems in Brazil, on producers' information contained in CAR, the rural land registry. CAR is covering geolocation of farms. However, an issue lies in the lack of validation/verification of farm information (CAR Codes) in Brazil in official systems. As it is only matching potential tier 2 indirect suppliers to meatpackers' supply chain, it does not cover the identification of all relevant origins of cattle, in compliance with EUDR requirements.

Trade data

Visipec relies on batch-level GTA data, which reflects transactions between buyers and sellers. When it comes to mapping indirect suppliers, it is therefore highlighting ranches potentially supplying cattle to the supply chain.

Given the nature of the supply chain for cattle, there is a time lag between when an indirect supplier sells to a direct supplier and when a meatpacker conducts a sourcing check and decides to buy cattle. Visipec addresses this time lag by linking the transaction window for direct and indirect suppliers with the data collection window for the official Brazilian deforestation data and maps (Prodes). For the purposes of monitoring, this means that there is a limited window of time for when a direct and indirect supplier are linked in the tool. In other words, the direct and indirect supplier are not linked indefinitely, and the transactional relationship between these actors resets on an annual basis.

Time-based information: The system does not collect or share time-based information associated with growing periods for cattle.

Deforestation monitoring

Visipec uses the official deforestation data published by the Brazilian government (Prodes) which is collected and published on an annual basis.

Legal compliance

Indirect suppliers are assessed via Visipec to a range of environmental criteria, including official data on protected areas, indigenous lands, embargoed properties and properties with slave labor. It will therefore not cover EUDR legal categories for which there might not be publicly available information in Brazil.

- Visipec website, Visualizing cattle supply chains in Brazil to enhance traceability and strengthen deforestation monitoring and Frequently Asked Questions.
- WRI Fripp, E., J. Gorman, T. Schneider, S. Smith, J. Paul, T. Neeff, F. Marietti, L. Vary, A. Zosel-Harper (2023). Traceability and transparency in supply chains for agricultural and forest commodities: A review of success factors and enabling conditions to improve resource use and reduce forest loss. In particular: Appendix B.
- NWF International (2021). A Path Towards Deforestation-Free Beef and Leather: Visipec Enhancing Traceability. <u>Video</u>.

RAINFOREST ALLIANCE

OVERALL DESCRIPTION

Rainforest Alliance is a not-for-profit corporation developing and implementing certification standards to promote sustainable agriculture. Rainforest Alliance is an alliance of farmers, forest communities, companies, and consumers and its standards and activities are promoting environmental sustainability, social responsibility and economic viability.

Rainforest Alliance Sustainable Agriculture Standard is applicable to a wide range of agricultural commodities, including cocoa, but also coffee, tea, bananas, etc. In 2018, Rainforest Alliance merged with another leading agricultural certification scheme, UTZ. Since 2024, coffee and cocoa farm certificate holders can opt-in a voluntary add-on EUDR module with specific criteria that align with EUDR requirements. This module is voluntary and free of charge.

DATA MANAGEMENT

Different supply chain models are available under the Sustainable Agriculture Standard: Identity Preserved/Mixed identity preserved/Segregation/Mass-balance. Cocoa and coffee have to be Identity Preserved or Mixed identity preserved. Certificate holders must record transactions of Certified Products as well as submit trademark or claims approval requests through dedicated IT platforms run by Rainforest Alliance, including Marketplace 2.0, Rainforest Alliance Certification Platform (RACP), Multitrace, etc.

Additional information collected as per the EUDR add-on requirement is collected through the Rainforest Alliance certification process and is owned by the certified producers. Once the information is uploaded to the certification platform by certificate holders, Rainforest Alliance checks the quality of geospatial data (GPS coordinates, etc.) against the requirements of the EUDR self-selected module.

Companies further down supply chains will be able to access data related to their supply chains through Multitrace. Supply chain certificate holders will agree to limit the use of this data for EUDR purposes only. Data for now is not systematically transferred downstream (it needs certificate holders' consent). It is planned that halfway through 2024, a list of certificate holders audited under the EUDR module (who then have consented to share their data) will be published, in order to inform buyers.

EUDR DATAPOINTS

Geospatial data

Rainforest Alliance requires farm certificate holders to collect geolocation data for all cocoa and coffee farm plots, but it allows for a progressive approach and the initial collection of points by cooperatives. With the EUDR add-on requirements, polygon data will be required for plots above 4 hectares, and the geolocation data needs to include 6 decimal digits, rather than the 4 otherwise required by Rainforest Alliance certification.

Traceability/tracking

Origin information for cocoa is recorded and made available in Multitrace (Rainforest Alliance's traceability platform) and is linked to specific products and volumes. However, in Rainforest Alliance's supply-chain models (including identity preserved and segregated models) a small amount of mixing can occur - only 90% of certified ingredients are required. This allows for 10% of mixing of conventional ingredients that are at risk of non-compliance with Rainforest Alliance and/or EUDR requirements. Date and time range are collected at farm level but do not seem to be passed further down the supply-chain.

Legal coverage

The Sustainable Agricultural Standards mandates certificate holders to comply with applicable laws within the scope of the standard. Certification bodies must undertake an applicable law assessment to identify national law corresponding to the Standard. This is updated annually and shared with Rainforest Alliance. It is not established whether alignment with the EUDR definition of applicable legislation is complete, or whether there may be gaps. Under the EUDR add-on module, there are specific requirements for certificate holders to prevent and address cases of corruption, fraud, etc. as well as evidence the payment of all fees and taxes as prescribed by local laws & regulations.

Deforestation assessment

The Rainforest Alliance Certification Program requires all certified farms to be georeferenced, based on GPS points and polygons. The Rainforest Alliance Standard does not allow the certification of farms on which destruction or conversion of natural ecosystems occurred later than January 2014 (earlier cut-off date than the EUDR). To verify compliance, the program uses a combination of satellite technology and checks performed during audits. Farm locations are used as input to a computer-based risk assessment. For this, Rainforest Alliance uses proprietary forest-layer data sets for Peru, Brazil, Ghana, Côte d'Ivoire and Indonesia, and Copernicus Forest layers for other countries, mapped against Global Forest Watch maps for tree cover loss. It also uses proprietary Al remote sensing forest data alongside other publicly available and government data sources to map deforestation risks. Risk assessments are shared with certificate holders and certification bodies, who must target farms to visit based on identified risks.

Note that minor conversion of land for agricultural use can be compliant under the main Sustainable Agriculture Standard. This is no longer available for farmers opting for the EUDR add-on criteria.

OTHER

Some exporters have made the EUDR module mandatory for their members to be in line with what the EUDR requires. A couple of trainings on the EUDR module have been given by Rainforest Alliance. Nonetheless, stake-holders in producing countries consider that stronger capacity-building still needs to be done. Audits including the EUDR module requirements will start this year. Some certificate holders do not think they will be ready for 2024 audit as they need more time to be compliant (e.g. on collecting polygons).

- Rainforest Alliance website.
- Rainforest Alliance (January 2024). <u>How the Rainforest Alliance Supports EUDR Compliance from Farm to</u> <u>Retailer.</u>
- Rainforest Alliance (October 2023). How the Rainforest Alliance can support EUDR compliance in Coffee and Cocoa. <u>Recorded webinar.</u>
- Nitidae (September 2021). Sustainability initiatives in Ivorian and Ghanaian cocoa supply chains: benchmarking and analysis.

GHANA COCOA MANAGEMENT SYSTEM

OVERALL DESCRIPTION

Ghana is currently developing its country-wide cocoa management system, which builds on mandatory certification based on ARS-1000 requirements, a cocoa traceability system (CTS) and an overall management system (CMS).

Cocobod, the Ghana Cocoa Board is the government-controlled institution in charge of overseeing the production, processing, marketing and export of the country's cocoa. Among other things, it supports cocoa production through providing planting material, fertilisers, training and extension services to farmers. It also supervises the quality and pricing of cocoa. Importantly, it has a monopoly on cocoa export and sales to processing factories, which means that all cocoa beans are sold through Cocobod warehouses, which are managed by licensed buying companies (acting as intermediaries between farmers and Cocobod).

In 2019, Cocobod started developing the country's Cocoa Management System, an integrated digital environment aiming at increasing efficiency, transparency and accountability in the cocoa sector. It is meant to record various aspects of cocoa production, including farmer registration, farm geospatial boundaries, sales and digital payments. The associated Cocoa Traceability System is designed to ensure traceability from farms to points of export.

Compliance with the ARS-1000 Standard, intended to be the base mandatory certification system for all Ghana's cocoa, is meant to be handled through the CMS digital tools. The National Implementation Guide for ARS requirement has been developed and published in 2023.

DATA MANAGEMENT

The CMS is covering the identification of all cocoa farmers, their relevant data and geospatial information on their plots. Farms are matched with a unique identifier. Age and class of farms are also collected to allow for yield estimations. Family related information is also covered, to manage child labor issues.

It is not entirely clear at this stage how this information may be passed down further the supply chains to buyers. In several public events and webinars, Cocobod has declared that the intention is to enable exporters to access traceability and sustainability data collected and managed under the CMS. Cocobod has also stated that it is aiming to make its digital platform interoperable, although it does not wish to encourage parallel traceability platforms.

EUDR DATAPOINTS

Geospatial data

Cocobod is collecting geospatial boundaries for all cocoa farms. It must be confirmed whether those are systematically polygons and in which formats those are recorded. It is also not entirely clear when the farmers' mapping process will be entirely finalised, and whether issues of data accuracy may occur and how those will be handled.

In 2023, Cocobod declared having mapped 1,2+ million farms, and 790 000+ farmers (out of around 800 000 overall). In recent public events, Cocobod officials stated that the country had mapped all or near all its cocoa farms.

Traceability/tracking

The CTS is designed to track cocoa bean sales from farms up to the points of exports. Cooperatives and Licensed Buying Companies (LCBs) are the first actors which will record trade information onto the system, through tablets and laptops. Farmers will indicate from which farm the beans are coming from, which will be recorded and associated to QR codes printed and fixed to cocoa bean bags.

The CTS was piloted in 2023 in some districts, which reportedly highlighted some issues that need to be fixed so the system can be fully rolled out.

Legal coverage

Legal compliance is meant to be fully covered by ARS 1000 mandatory certification, as well as through increased data collection and verifications performed under the CMS. It seems that ARS compliance for cocoa farms is to be heavily handled by cooperatives, which is raising questions and challenges in

Ghana since most farmers are not affiliated to or organized in cooperatives. The intention is also that the CMS allows for the identification of higher risk farms, to better target physical checks performed by Ghana's authorities.

An area of potential unclear legal application is around the presence of cocoa farms within Protected Areas, for which farmers may be established for a long time and have claims contested by the Forestry Commission, with a lack of clear legal archives to determine the validity of land and cultivation rights. A child labor module is also being developed and is intended to be integrated to the CTS.

Deforestation assessment

A forest monitoring system is meant to be in place as part of Ghana CMS / CTS. It is soon to be tested.

OTHER

As farmers may have several cocoa farms, they need to be sensitised to avoid mixing beans coming from several farms so that identification of origins recorded in the system is reliable.

LCB agents also reportedly need to be trained on handling bean consignments appropriately.

Cocobod and organizations such as Proforest and the GIZ are currently supporting awareness-raising activities. Ghana is confident its system can be operational in time to support EUDR compliance.

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