



Nigeria

EU support to strengthening private sector adaptation to EU deforestation regulation and Corporate sustainability Due diligence directive (CS3D)

Volume 2: Assessment of the potential impact of the EU Deforestation Regulation (EUDR)

Final report

16 October 2024

Author:

Javier Sánchez

The TPSDE II Facility

The TPSDE Facility is an advisory service of the European Commission (EC) managed by Unit E2 in charge of Trade, Investment Climate, Entrepreneurship & Value Chains within the International Partnerships Directorate General (INTPA).

Legal notice

This report was prepared by Javier Sánchez, an expert mobilized by the TPSDE Facility at the request of the Delegation of the European Union in Nigeria. The contents of this publication do not necessarily reflect the official position or opinion of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use which might be made of the information contained in this report.

Acknowledgements

We would like to thank all those who contributed to this report. Thanks to the EU Delegation in Nigeria for its contributions, revisions, and comments. Thanks to all those interviewed during this consultation for their willingness and commitment to work to make Nigeria's value chains stronger and more competitive internationally. Many thanks to Yemi Adelemi for his support and invaluable advice in preparing this report.

Table of contents

Executive summary	5
Methodology.....	9
Part 1. 10	
Brief description of the EU deforestation regulation requirements (EUDR) 10	
The EU deforestation regulation official text.....	11
Resources to facilitate the interpretation of the official text	13
Resources to support EUDR implementation	13
Part 2. 15	
Assessment of the potential impact.....	15
1. Sensitivity of the value chains concerned to the EU market	16
2. Characterization of the value chains concerned	19
2.1. Cattle value chain	20
2.2. Cocoa value chain	26
2.3. Rubber value chain	32
2.4. Wood value chain	37
3. Preparedness of the value chains concerned to comply with the EUDR.....	44
3.1. Contribution to deforestation.....	44
3.2. Preparedness to implement traceability systems.....	46
3.3. Preparedness to comply with the legality condition	51
Part 3. Conclusions and recommendations.....	55
1. Conclusions	56
1.1 General	56
1.2 At the value chain level	57
1.3 Evaluation summary	58
2. Recommendations.....	60
1.1. Institutional framework to support the private sector's adaptation to the EUDR.....	60
1.2. Concerning the implementation of the EUDR	61
Annexes.....	66
Annex 1. Draft road map to facilitate the adaptation of the cocoa value chain to the EUDR	67
1. Rationale	68
1.1. <i>Implementation of the EUDR.....</i>	68
1.2. <i>Process of adaptation of target value chains to the EUDR</i>	68
1.3. <i>The role of the State.....</i>	68
1.4. <i>The role of civil society</i>	69
2. Strategy.....	69
2.1. <i>Objectives.....</i>	69
2.2. <i>Approach.....</i>	69
2.3. <i>Risk analysis</i>	70
3. Roadmap	71
<i>Operational structure.....</i>	71
<i>Short-term activities.....</i>	71
Annex 2. Meetings list	79

BOI	Bank of Industry (Nigeria)
CAN	Cocoa Association of Nigeria
CFAN	Cocoa Farmers Association of Nigeria
C of O	Certificate of occupancy
CRIN	Cocoa Research Institute of Nigeria
CSA	Climate Smart Agriculture
CS3D	Corporate Sustainability Due Diligence Directive
DG	Directorate General (EC)
EC	European Commission
EU	European Union
EUD	EU delegation
EUDR	EU Deforestation Regulation
FAO	Food and Agriculture Organization
FIRO	Federal Institute of Industrial Research Oshgodi
FRIN	Forestry Research Institute of Nigeria
GDP	Gross Domestic Product
GIS	Geographic Information System (Ministry of Environment of Nigeria)
HQ	Headquarters
HS	Harmonized System
IFC	International Finance Corporation
ILO	International Labor Organisation
INTPA	International Partnerships Directorate General
LBA	Licensed Buying Agent
LGW	Leather Working Group
MSMEs	Micro, Small and Medium Enterprises
MT	Metric Ton
NAITS	National Animal Identification and Traceability System
NAPRI	National Animal Production Research Institute
NARPPMAN	National Rubber Producers, Processors and Marketers Association of Nigeria
NATIP	National Agricultural Technology and Innovation Policy
NCMC	National Cocoa Management Committee
NCP	National Cocoa Plan (2023-2032)
NEPC	Nigerian Export Promotion Council
NESG	Nigerian Economic Summit Group
NFP	National Forest Policy (2016)
NILEST	Nigerian Institute of Leather and Science Technology
NSIWC	National Salaries, Incomes and Wages Commission
PPA	Potential Plantation Area
PIR	Presidential Initiative on Rubber (2006)
RENL	Rubber Estates Nigeria Limited
RRC	Rubber Resource Centre
SAP	Structural Adjustment Program
SFD	State Forestry Departments
SFEM	Second Tier Foreign Exchange Market
SOCFIN	Société Financière des Caoutchoucs
TPSDE	Trade, Investment Climate, Entrepreneurship & Value Chains (Facility)
TWEAN	Tropical Timber Exporters Association of Nigeria

Executive summary

The Trade, Private Sector Development and Employment (TPSDE) Facility II is an advisory service of the European Commission (EC) managed by Unit E2 in charge of Trade, Investment Climate, Entrepreneurship & Value Chains within the Directorate General for International Partnerships (INTPA).

The Facility is aimed at providing technical and support services to INTPA Headquarters and EU Delegations (EUDs) to increase their capacity in programming, designing, and implementing interventions to improve the business environment in partner countries. It is an ad hoc facility working on demand for the EUDs and HQ, supporting INTPA E2.

The EU delegation in Nigeria has requested a technical support from the TPSDE Facility related to a general assessment on cocoa, cattle (including leather), rubber and wood value chains, potentially more affected by the EU Regulation on Deforestation (EUDR), regarding the level of preparedness of their private sector to comply with the new requirements to be implemented in January 2025¹. The assessment will also cover the potential impact of the recently adopted Corporate Sustainability Due Diligence Directive (CS3D).

This document corresponds to the EUDR assessment:

Cattle: we consider the EUDR-impact will be low. First, national production of cattle does not meet the domestic demand, and this gap is expected to increase over the coming decades. Consequently, beef exports from Nigeria to the EU are not foreseeable in the short or medium term. On the other hand, hides and skins of cattle are primarily consumed as a food delicacy (POMO), and Nigeria's leather exports to the EU consist almost entirely of goats and sheep skins, that are not covered by the EUDR. While cattle is a major contributor to deforestation, implementing EUDR-compliant traceability systems would be challenging -and probably ineffective- in a sector where pastoral, transhumant models are prevalent.

Cocoa: we expect the impact to be high. Despite the efforts led by exporters and traders, the geolocation of small, scattered plots, often hidden by agroforestry cover, makes the implementation of the EUDR particularly complex. According to data provided by the Cocoa Association of Nigeria (CAN), only 50% of plots are currently geolocated. Moreover, small production volumes at the farm level and the participation of several middlemen in the value chain make traceability challenging. The National Cocoa Management Committee (NCMC) project to set up a Cocoa board and regulate production should facilitate farmer registration and, ultimately, the implementation of traceability systems. However, this project, if approved by Parliament, will require time and resources to achieve effective results.

Furthermore, cocoa is one of the main drivers of deforestation. According to information gathered during the field mission, a substantial percentage of cocoa plots are located within classified forests and protected areas. This poses a specific problem in terms of production compliance with the land and environmental regulations, which the EU importer must verify according to the EUDR.

Rubber: we foresee that the impact derived from the implementation of the EUDR would be medium. Exports to the EU are driven by a few large EU multinationals and rubber processors, that are leading traceability and geolocation efforts across the value chain. In

¹ On October 2nd, 2024, the European Commission announced a proposal for an extra 12 months of phasing-in time, responding to calls by global partners. If approved, the EUDR substantive measures would be implemented from January 2026.

addition, rubber trees are a key resource for reforestation programmes sponsored by the Nigerian government. Therefore, rubber production expansion does not generally cause deforestation. This assessment does not exclude that some groups of producers may be negatively affected by the EUDR implementation. However, there are alternative export markets to which their production could be redirected.

Timber: we expect the impact to be low. On the one hand, there are currently no significant timber exports from Nigeria to the EU. The fact that a substantial share of timber exports is directed towards markets with low environmental sustainability requirements would discourage the adoption of specific measures adapted to the EU market. The potential impact would result from EU importers requesting verification of the traceability of Nigerian timber re-exported to the EU market via other countries. It is not possible to analyze this hypothetical impact in the context of this study, as the volumes and form of such re-exports are unknown. In the case of “legal” timber exports, the requirement to obtain prior logging authorization and to identify the felling area could facilitate the traceability if necessary.

Table: Evaluation summary

Value chain	Preparedness	Potential impact	Priority (support)
Cattle	Low	Low	Low
Cocoa	Medium	High	High
Rubber	Medium	Medium	Medium
Timber	Low	Low	Low

Recommendations:

On the institutional framework to support the private sector's adaptation to the two regulations

- Formalization of the EUDR Task Group and provide support to the design of an inclusive strategy
- Prioritize the most affected value chains
- Provide support to the National Cocoa Management Committee (NCCMC)
- Collaborate in the drafting of the cocoa law and/or its regulatory development.
- Support the implementation of a semi-regulated model in the cocoa value chain.

Concerning the implementation of the EUDR

- Development of a roadmap for the cocoa value chain (Draft proposal included in Annex 1)
- Facilitate the verification of conformity by the European importer
 - ✓ Provide an updated forest baseline
 - ✓ Facilitate the verification of production legality condition by the EU importer
 - ✓ Promote partnerships between Nigerian exporters and European exporters and importers.
 - ✓ Enhance awareness of new requirements

Promote EU lead companies' investment to strengthen value chains

Support the productivity of the value chains concerned

- ✓ Promote associativity, including cooperatives and consortia
- ✓ Support the implementation of sustainable productivity improvement practices that include deforestation prevention objectives.
- ✓ Improve small producers' access to financing.
- ✓ Promote the formal registration of land titles in the relevant sectors.

Introduction

Context, mission objectives and expected results

The Trade, Private Sector Development and Employment (TPSDE) Facility II is an advisory service of the European Commission (EC) managed by Unit E2 in charge of Trade, Investment Climate, Entrepreneurship & Value Chains within the Directorate General for International Partnerships (INTPA).

The Facility is aimed at providing technical and support services to INTPA Headquarters and EU Delegations (EUDs) to increase their capacity in programming, designing, and implementing interventions to improve the business environment in partner countries. It is an ad hoc facility working on demand for the EUDs and HQ, supporting INTPA E2.

The EU delegation in Nigeria has requested a technical support from the TPSDE Facility related to a general assessment on cocoa, cattle (including leather), rubber and wood value chains, potentially more affected by the EU Regulation on Deforestation (EUDR), regarding the level of preparedness of their private sector to comply with the new requirements to be implemented in January 2025². The assessment will also cover the potential impact of the recently adopted Corporate Sustainability Due Diligence Directive (CS3D).

The overall objective of the assignment is to support the EUD in Nigeria with a general assessment of the potential impact of EUDR and CS3D on the cocoa, rubber, cattle (including leather) and wood value chains and to provide recommendations to construct a strategy for the EUD to support the adaptation of the private sector, in particular micro, small and medium sized enterprises (MSMEs) and small producers.

The specific objectives of the assignment are:

- To provide **updated information on the private actors and the cocoa, rubber, cattle (including leather) and wood value chains** (mapping) using the methodology developed in former studies including the information collected and analysed in the ongoing assessment made by TPSDE experts in Africa at regional level.
To **assess the potential impact of the EUDR and CS3D** (readiness and potential impact), covering not only the negative aspects related to non-compliance, but also the positive aspects related to compliance with this regulation for the Nigerian products/companies and the sustainable agriculture in Nigeria.
To **identify mechanisms for dialogue with public and private sector actors** regarding the potential impacts of these regulations on products from value chains targeted by mapping.
- Identify the **key initiatives for responsible business conduct** that comply with international standards and assess how to strengthen them. In addition, to feed the dialogue with the Nigerian private sector, include recommendations on possible trade union and/or regulatory strategies to comply with the EUDR and CS3D.

² On October 2nd, 2024, the European Commission announced a proposal for an extra 12 months of phasing-in time, responding to calls by global partners. If approved, the EUDR substantive measures would be implemented from January 2026.

- To identify **possible synergies with other best practices of private sector in the region to get prepared to implement EUDR requirements** (traceability and legality requirements) **or CS3D and develop sustainable exports to the EU.**
- To propose a **draft Road Map** for the potentially most affected commodities with concrete short-term measures facilitating their adaptation to the EUDR and recommendations for a sector wide approach to promote ownership from the private (and public) sectors of the proposed Road Map.

The expected outputs of this assignment are:

Output 1. A general assessment of the situation and preparation of the (1) cocoa (2) rubber (3) cattle (including leather) and wood value chains to implement the new due diligence requirements on deforestation and corporate sustainability.

Output 2. Sharing main results and mobilising the private sector in one workshop to be organised with the Delegation after the approval of the Final report.

Activities carried out by the consultant

As foreseen in the ToRs of the mission, the consultants carried out the following activities:

Phase 1: Kick off and preparation of the field mission:

Phase 2: Field mission. The EUDR field mission took place in Lagos and Abuja between July 15th and 26th. The CS3D field mission dates were August 12th-16th and covered also Abuja and Lagos. Additional virtual meetings were organized before and after the field missions.

Phase 3: Final report

This part of the study corresponds to the EUDR assessment. It is expected that the results will be presented to relevant stakeholders.

Methodology ³

The objective of this study is to estimate the potential impact of the EUDR on Nigeria's cattle (including leather), cocoa, rubber and timber value chains.

To do so, we first present a characterization of the four value chains concerned, where we discuss elements related to their structure and the development of tools linked to the scope of the EUDR (contribution to deforestation, traceability, certifications, social and environmental sustainability strategies, in particular). Then we analyze the preparedness of each value chain to comply with the EUDR requirements.

The results of the analysis are then presented in summary form based on the following variables:

- **Preparedness:** refers to the ability of actors in each value chain to comply with the requirements of the EUDR. The assessment considers the technical and economic capacities and structural characteristics of each chain, which may facilitate or hinder the adaptation of supply chain players to the conditions of traceability from the production plot and legality of production laid down by the regulation, as well as to the corresponding due diligence system.
- **Potential impact:** refers to the potential impact that the entry into force of the EUDR may have on each value chain, considering their state of preparedness and their exposure to the EU market, whether direct or indirect. In theory, it could be assumed that the implementation of the obligations linked to the regulation will have a positive impact in terms of reducing deforestation at the level of each commodity chain, which is the main objective of the EUDR. However, it has to be stressed that this indicator focuses on the potential negative effects (loss of income for growers, due to their potential exclusion from European market supply chains in particular) that the entry into force of the regulation may have on the value chain.
- **Estimated/suggested level of priority:** refers to the recommendation to strengthen the value chain operators to facilitate their compliance with traceability and legality obligations, given the potential impact of the EUDR.

A word of caution is in order regarding the data used in this study. Indeed, the availability of official data in Nigeria for each value chain is limited and heterogeneous. In many cases, available data are simply estimates, made by public or private players.

In order to take into account the information which, in each case, is most relevant for the intended analysis, different sources have been consulted, which, in some cases, provide dissimilar data.

Each source used is cited at the bottom of the page or in the body of the text, usually below the tables and graphs.

³ The methodology presented here is based on that used in previous studies linked to the analysis of the impact of the two regulations concerned on selected value chains. Adaptations deemed necessary have been made for Nigeria on the basis of the available information gathered during the mapping phase and the specific characteristics of the value chains analyzed.

Part 1.

Brief description of the EU deforestation regulation requirements (EUDR)

The EU deforestation regulation official text

The European Union Deforestation Regulation (EUDR)⁴ to combat imported deforestation came into force on 29 June 2023 but will only apply at the end of a transitional period on **1 January 2025**. On October 2nd, 2024, the European Commission announced a proposal for an extra 12 months of phasing-in time, responding to calls by global partners. If approved, the EUDR substantive measures would be implemented from January 2026.

The text covers a number of products identified as contributing significantly to the disappearance of tropical and equatorial forests.

Products covered by the Regulation: cattle, cocoa, coffee, oil palm, soya, timber and rubber, made available (i.e. imported or not) in the EU, as well as those exported from the EU. In addition, products (listed in Annex I and identified by their harmonized nomenclature (Harmonized System code, HS) that contain, have been fed with, or have been made from these products.

Therefore, the EUDR covers not only raw materials (as undifferentiated products), but also a wide range of processed products, including, for example, chocolates, soy flour, cellulose packaging, leather or clothing articles and accessories containing rubber.

The list of products covered by the Regulation will be regularly reviewed and updated, taking into account new data such as changing deforestation patterns.

Who must comply with the new requirements? Companies that import these products into the EU (operators), market them (traders) or export them from the EU.

What are the new requirements? The Regulation sets out strict due diligence rules for companies wishing to make the relevant products available on the EU market or export them. Operators and traders will have to prove that the products are both "deforestation-free" (i.e. produced on plots that have not been subject to deforestation or forest degradation after 31 December 2020) and legal (compliant with all relevant laws in force in the country of production).

Companies will also be required to collect the precise geographical information (geolocation) of the farms where the products they supply have been grown, so that they can verify the compliance of these products. In the case of cattle, all establishments associated with raising the cattle, encompassing the birthplace, farms where they were fed, grazing lands, and slaughterhouses must be geolocated. It is not therefore enough to provide the geolocation of the land where the calf was born.

"Geolocation": according to the regulation, geolocation is defined as *"the geographical location of a parcel described by means of latitude and longitude coordinates corresponding to at least one point of latitude and longitude and comprising at least six decimal digits. In the case of the products concerned other than bovine animals, for parcels of more than 4 hectares, the geographical location shall be provided by means of polygons, i.e. points of latitude and longitude sufficient to describe the perimeter of each parcel. »*

The **due diligence procedure:** the due diligence procedure will have to ensure that there is no risk that non-compliant products will be placed on the EU market or exported outside the EU, or that this risk is negligible.

The due diligence procedure consists of 3 steps:

⁴ <https://eur-lex.europa.eu/legal-content/FR/TXT/PDF/?uri=CELEX:32023R1115>

STEP 1. Gather all relevant information listed in the Regulation: in particular, operators must collect the geographical coordinates (i.e. geolocation via latitude and longitude) of all parcels where the products have been produced.

STEP 2. Based on this information, they must identify and assess the risk of non-compliance of the products concerned with the requirements of the regulation. If the risk assessment concludes that the risk of non-compliance is non-negligible, the operator must take adequate risk mitigation measures to reduce the risk to a negligible level. If there is no access to the applicable legislation or other relevant information, the risk cannot be fully assessed and therefore not mitigated to a negligible level. If the risk cannot be mitigated to a negligible level, the operator will not be able to place the relevant raw materials or products on the EU market.

STEP 3. If there is no risk of non-compliance, or if the risk is negligible, the operator must submit a due diligence statement (Annex II of the EUDR) to the information system to be set up by the European Commission before placing these raw materials or products on the EU market or export them. When the products enter the European Union, the reference number of the due diligence declaration will have to be included in the customs declaration, to allow for the necessary close cooperation between the customs authorities and the competent authorities of the Member States. If new information becomes available after the submission of the due diligence statement, operators are required to inform the competent authorities.

It is also important to note that operators in the EU are required to put in place adequate and proportionate policies, controls and procedures to effectively mitigate and manage the risks of non-compliance of the relevant products. These include: (a) risk management practice templates, reporting, record keeping, internal control and compliance management, including for operators that are SMEs, the appointment of a compliance officer at management level; (b) an independent audit function to verify the internal policies, controls and procedures of all non-SME operators.

! **Obligations for Nigerian producers:** The regulation does not establish any specific obligations for Nigerian producers. However, for operators to place the relevant raw materials and products on the EU market, they must ensure the conformity of the goods and/or product concerned from the moment of their production. This includes: (a) obtaining the geographical coordinates (or geolocation via latitude and longitude) of all agricultural holdings where the products concerned were produced or manufactured and (b) accessing the information necessary to carry out the risk assessment, including information on any changes in circumstances regarding the specific risk of non-compliance. In addition, the EU regulation *de facto* requires intermediaries in producer countries (who collect and/or select relevant products from multiple producers) to regularly request and verify that their suppliers comply with deforestation-free requirements.

Will the requirements be the same in all producing countries? Producing countries will be classified according to their "risk" of deforestation. This assessment (also known as "*benchmarking*" system) will be based on a set of predefined evaluation criteria and will take into account the information provided by the country concerned. The list of countries or parts of countries that pose a low or high risk will be published and updated as necessary in light of new evidence.

For products from countries (or parts of a country) considered "high-risk" or "standard-risk", operators are required to conduct due diligence on all affected products to ensure that they meet zero-deforestation requirements.

When the raw materials or products concerned originate from a country (or parts of a country) that has been assessed as "low risk", operators are only required to carry out STEP 1 and STEP 3 of the due diligence process (simplified due diligence). However, if the operator has access to information regarding a specific risk of non-compliance, the 3 steps of the due diligence procedure apply.

What is the date of entry into force of the regulation? The regulation came into force on June 29, 2023, although it provides for a transitory period until the end of December 2024 (June 2025 for small and medium-sized enterprises in the EU). However, on October 2nd, 2024, the European Commission announced a proposal for an extra 12 months of phasing-in time, responding to calls by global partners⁵. If approved, the EUDR substantive measures would be implemented from January 2026 (July 2026 for SMEs).

Resources to facilitate the interpretation of the official text

An ad hoc web based platform⁶ has been developed to consolidate relevant text, tools and links that are relevant to the EUDR implementation.

A Guidance Document for the EUDR was published on October 2nd, 2024. This platform also includes a set of Frequently Asked Questions (FAQ) aiming to facilitate the interpretation of the EUDR, and to clarify the scope and implementation of some technical concepts. These FAQ should be used together with the official text of the regulation. They are presented broken down by topic: (1) Scope; (2) Timeline; (3) Due diligence; (4) Traceability; (5) Definitions and obligations; and (6) Country benchmarking. A document including the guidelines for the cocoa value chain is also available in this platform.

Resources to support EUDR implementation

The web based platform mentioned above provides useful information on tools and initiatives aiming to facilitate the implementation of the EUDR, namely:

- **Team Europe Initiative on Deforestation-free Value Chains**⁷: this is a coordinated strategy by the EU and its Member States designed to support global ambitions on decoupling agricultural production from deforestation in partnership with various stakeholders. Through support activities and flagship projects, the EU and its Member States seek to promote the inclusive and just transition of sustainable value chains, especially for smallholders and low-income countries. They do this by supporting partner governments with creating enabling framework conditions for corporate action to minimise deforestation, reducing risks in complex value chains and crowding-in private sector investments in sustainable agribusinesses. This initiative also supports smallholders with forest preservation and assists Indigenous peoples and local communities with protecting their rights.
- **Cooperation with partners**: this includes a range of initiatives aimed to protect the environment and support the development of sustainable value chains. Of particular interest is the EU Sustainable Cocoa Initiative⁸, that covers Ivory Coast, Ghana and Camerroun, and addresses deforestation, child labour and living income in cocoa supply chains.
- **EU Observatory on deforestation and forest degradation**⁹: the EU Observatory on deforestation and forest degradation aims to monitor changes in the world's forest cover and related drivers. Besides providing access to global forest maps and spatial

⁵ Proposal for a Regulation of The European Parliament and the Council Regulation (EU) 2023/1115 as regards provisions relating to the date of application [eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52024PC0452R\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52024PC0452R(01))

⁶ https://green-business.ec.europa.eu/deforestation-regulation-implementation_en

⁷ <https://zerodeforestationhub.eu/>

⁸ https://international-partnerships.ec.europa.eu/policies/programming/programmes/sustainable-cocoa-initiative_en

⁹ <https://forest-observatory.ec.europa.eu/>

forest and forestry-related information, this Observatory facilitate access to scientific information on supply chains, linking deforestation, forest degradation and changes in the world's forest cover to demand for commodities and products in the EU. Data and information provided on this Observatory play a supporting role but do not assure compliance or imply non-compliance with the EUDR or any other regulations, legal frameworks or commitments, or international agreements. Of particular interest for EUDR compliance, are the two following tools available in this platforme.

- The Global forest monitoring: which includes (1) a Global map of forest cover for year 2020; (2) a Global forest attributes; (3) a Global map of forest cover changes and their drivers; and (4) a Tropical moist forest dataset. Although these maps have no legal value per se, they may serve as a tool to comply with the EUDR, for example in order to assess the deforestation risk.
- The EU tools for forest monitoring: including, among other resources a (1) Near real time analysis of time series of satellite data; (2) a Landascape pattern analysis; and (3) IMPACY- Standalone toolbox for image processing and environmental monitoring

Part 2.

Assessment of the potential impact

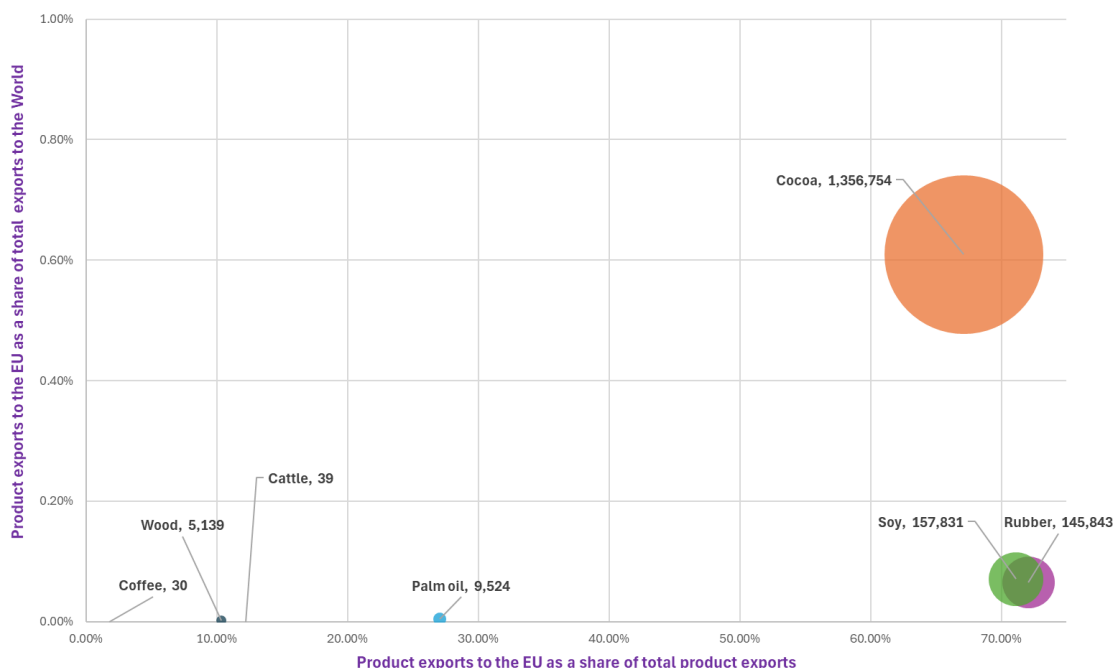
1. Sensitivity of the value chains concerned to the EU market

In this section, we aim to assess the "sensitivity" of each value chain to regulatory changes affecting conditions of access to the EU market. Estimating the relative, quantitative relevance of the EU market for Nigerian producers and exporters, it is possible - at least theoretically - to assess this sensitivity based on two factors:

- The **total potential quantitative impact**: i.e. the volume of Nigerian exports affected -potentially- by the EUDR.
- **The interest and the "motivation" of producers and exporters** in each value chain to adapt to the new European market access conditions. It can be assumed that the greater their dependence on the European market, the weaker their ability to diversify markets in the short term, and the greater their interest in ensuring compliance throughout the value chains concerned.

The graph below presents an analysis of the "total" potential impact of the EUDR on exports from each of the value chains concerned. Only those tariff codes have been considered for which Nigerian exports to the EU are significant within the value chains identified by the EU Delegation for this study.

Graph: Multivariable comparison of the sectors concerned (the size of the bubbles represents the country's total exports for each sector)^{10,11}



¹⁰ Amounts are totals in thousands of Euros for the period 2019-2022, the last year with complete series for all products available at the time of this study. Amounts correspond only to tariff codes for which there are exports from Nigeria to the EU.

¹¹ In thousand Euro. Source Trademap, International Trade Center (ITC) based on statistics from Nigeria's National Bureau of Statistics

This is obviously a theoretical impact, designed to measure the sensitivity of each sector to changes in conditions of access to the European market.

It should be noted that some players already complying with the new traceability and legality requirements, but not yet exporting to the EU, may seize the opportunity to start doing so. It is also possible that other players, who were planning to export to the EU, may decide, due to the entry into force of the EUDR, to abandon this strategy because they consider difficult or too costly complying with the new requirements. In both cases, the potential impact would be impossible to measure quantitatively *ex ante* at the overall sectoral level.

This analysis is therefore only intended to establish an approximate but plausible quantitative indicator to identify the sectors most exposed to the European market, and to estimate the total amounts potentially affected by the changes derived from the regulation.

A few details are necessary for a proper understanding of the graph:

- Nigeria's cattle exports (including beef and hides and skins) are virtually non-existent. Although there may be informal overland exports, official data show that exports of these products are negligible. In fact, as explained in section 2 (below), cattle production in Nigeria does not meet domestic demand, and most hides and skins are consumed as food. Nigeria's exports of hides and skins (and by-products) correspond to goats and sheep, and Nigeria performs very well on these two value chains. In this context, it is plausible to conclude that the short-term impact of the EUDR on this value chain will be nil.
- Nigeria's total exports of timber fluctuate over the analysis period. Exports to the EU are not significant. It is important to note (below, section 2) that the Nigerian government introduced a ban on timber exports in 2021 (which was lifted "conditionally" in 2023). Exports data are logically distorted by the effect of this ban. However, the results of the field mission show that there is a huge illegal timber sector, including exports. We will also discuss below that most destinations for Nigerian timber are countries with low sustainability standards. In this situation, it seems that producers and exporters will have little interest in ensuring compliance with the EUDR.
- The EU is the largest importer of Nigerian cocoa and accounts for around 67% of all cocoa exports from the country. However, the importance of the EU market has gradually declined during the last decade, with a maximum share of 81% in 2019 and a minimum share of 59% in 2023. Non-EU markets like Malaysia, Indonesia, USA, Canada or Türkiye have increased their imports Nigerian cocoa significantly during this period.
- Finally, it should be noted that the validity of this quantitative analysis is limited, and the results must be used in combination with the quantitative and qualitative variables and indicators included in the characterization of the sectors concerned (section 2).

Three variables were used for this quantitative analysis:

1. **Exports of each product from Nigeria to the EU/total exports of the same product from Nigeria to the world.** This variable reflects the exposure (in percentage terms) of each sector's exports to the European market. For example, the graph shows that around 72% of Nigeria's rubber exports are destined to the EU, reflecting the sector's

strong dependence on the European market and, consequently, its high sensitivity to new regulations. For cocoa, the situation is similar, with around 67% of Nigerian exports destined to the EU. By contrast, small percentages of timber and livestock (around 10%) are exported to the EU.

2. **Exports of each product from Nigeria to the EU / total exports from Nigeria to the world.** This variable expresses the exports of each product to the EU as a percentage of the country's total exports, and therefore attempts to estimate the potential impact on the country's balance of trade or foreign exchange inflows. The table shows that cocoa exports to the EU account for the largest share of Nigeria's total exports. By contrast, timber or livestock exported from Nigeria to the EU represent less than 0.01% of the country's total exports. However, the importance of these products is much higher if oil exports are excluded. According to data from the Ministry of Agriculture, Nigeria's cocoa exports accounted for 5.6% of the country's total non-oil exports and 29% of total agricultural exports in 2023.
3. **Amount (in thousands of Euros) of exports of each product to the EU.** This variable is represented by the size of each bubble. As with the previous two variables, cocoa exported from Nigeria to the EU represent a much larger amount than cattle or wood.

The following table shows the exports by tariff code analyzed for each product.

Table: Exports from Nigeria ^{12,13}

Produits	Exports to the EU ¹⁴	Product exports to EU as a share of product exports to World	Product exports to EU/ as a share of total exports
Cattle	39	12,23 %	0,00 %
Cocoa	1.356.754	67,12 %	0,61 %
Rubber	145.843	72,08 %	0,07 %
Wood	5.139	10,35 %	0,00%

Based on these data, it can be concluded that cocoa and rubber soya are highly dependent on the EU market and therefore very sensitive to the regulatory changes set out in the EUDR. If we consider that market diversification is complicated in the short term, and that the price of these products in the EU is generally more attractive than in other markets, we can assume that Nigerian producers and exporters of these two commodities have a clear interest in implementing the necessary adaptations to ensure their compliance with the regulation analyzed.

However, it is important to highlight the growing importance of Nigeria's cocoa exports to the USA, Canada and Asian countries. All things being equal, exporters may decide to give priority to these markets if they feel that compliance with the European directive is too complex or too costly.

Finally, as far as cattle and timber are concerned, given their very low exports to the EU, it seems that these value chains will not really be impacted by the EUDR. Most of the timber is being exported to countries with low environmental standards, so it seems difficult to expect exporters, in general, to have a specific interest in adapting to the EUDR.

¹² Amounts are totals in thousands of Euros for the period 2019-2022, the last year with complete series for all products available at the time of this study. Amounts correspond only to tariff codes for which there are exports from Nigeria to the EU.

¹³ In thousand Euro. Source Trademap, International Trade Center (ITC) based on statistics from Nigeria's National Bureau of Statistics

¹⁴ In thousands of euros.

2. Characterization of the value chains concerned

This chapter presents a characterization of each of the value chains concerned. The aim is to identify the quantitative and qualitative elements required to assess the readiness of these value chains and their ability to comply with the obligations set out in the EUDR.

Consequently, particular attention has been paid in this chapter to the following elements:

- Number of producers
- Number and size of production plots
- Structure and players in value chains
- Contribution of each value chain to deforestation
- Implementation of traceability systems and/or percentage of certified production
- The composition of exports and the relative importance of the European market.

As mentioned above, in many cases, official data are either unavailable or out of date. In some cases, therefore, we use approximate values or indirect indicators that enable us to make valid estimates from the point of view of our analysis.

These elements provide the information needed to analyze the state of preparedness of each of these sectors, which is presented in section 3.

2.1. Cattle value chain

Cattle and beef

Livestock is an important and integral component of Nigeria’s agriculture and a major source of household income and food security. Indeed, among livestock-rearing households in pastoral areas and where there is high engagement in cattle production in the sub-humid and semi-arid ecological zones, possession of cattle is seen as a guarantee for secured food supply.

Cattle are the single most important livestock species in terms of output and capital value. In fact, Nigeria is **one of the leading countries in cattle production in sub-Saharan Africa**, with over 18,2 – 22 million cattle consisting of 1,47 million milking cows and 13,26 million beef cattle.¹⁵ Less than 1% of these populations are commercial while the remaining is under traditional pastoral systems.

While sheep, goats, pigs and poultry are raised throughout the country, cattle are largely concentrated in the dry savannah parts of the country including areas that are not tsetse fly free.

Cattle are reared under two major production systems: the sedentary mixed farming production system and the nomadic pastoral or agro-pastoral production system. According to a study published by FAO¹⁶, large herds of cattle are predominantly managed by semisedentary agro-pastoralists and the transhumant pastoralists who hold about 95% of the national cattle population.

The “White Fulani” or “Bunadji” breeds are dominant. The local herdsmen (mostly in the dry northern Nigeria) own and maintain most of the cattle and the cattle feed on natural grass under the traditional system. Migrant pastorals move flocks over months and many miles to find pasture during the dry season, which often results in weight loss, low yields and sickness.

Many pastoral herds come into Nigeria across the borders, sell their animals and return home with their proceeds. In beef production, however, once the early phase of cattle rising is complete, the later stages—grazing and feedlot feeding—are concentrated in the sub humid and savannah belt.

According to the “2020-2026 Nigeria livestock roadmap for productivity improvement and resilience”, only 31% of livestock producers belong to cooperatives or are organised in groups. This poses specific challenges to the ability of public services to provide technical services that could enhance productivity in the sector.

The main cattle association in Nigeria is “Miyetti Allah Cattle Breeders Association”, which champions the course of the pastoralists in Nigeria. The association has advocated for the creation of a Livestock Ministry. According to information provided by the Ministry of Agriculture during the field mission, the Livestock Ministry will be established in 2024.

¹⁵ Nigeria livestock roadmap for productivity improvement and resilience, 2020-2026, Ministry of Agriculture

¹⁶ Review of the livestock/meat and milk value chains and policy influencing them in Nigeria, FAO, 2016



Farmer-herder conflicts across the country are also contributing to deforestation

Farmer-herder conflicts in Nigeria, which were predominantly in the North-Central region, have spread across the country. Drought and desertification in the north have forced pastoralist herdsman to seek grazing lands further south resulting in competition over resources and clashes with settled farmers. Conflicts are exacerbated by religious and ethnic divisions (most herders are Muslims, while farmers are generally Christians), and they result in significant loss of lives and livelihoods and undermine food security.

When conflicts over land arise, the state is virtually absent. Fulani migrants are often taken aback that they are refused access to land in the territories they find themselves in, partly because the conventions of land ownership differ across Nigeria, based on community, ethnic groups, or kin. The confusing Land Use Act, enacted in Nigeria in 1978, vested all lands in a State to its governor. Custody, control, appropriation, and management are in his or her remit, but there is no effective, overarching system in practice.¹⁷

According to information gathered during the field mission,¹⁸ the encroachment of grazing areas and pasture reserves by the desert in northern areas is also causing herders to disregard reforested areas or prune them to provide feed for livestock.

Low productivity and increasing demand for beef, the main sources of domestic animal protein in Nigeria, has resulted in a domestic supply gap. The FAO study indicates that domestic supply of animal protein is growing at 1.8% per annum while the overall demand is estimated to rise at 5.1% annually. As the population increases, demand for beef is projected to rise 196 % by 2050. Although there is limited formal importation of beef into Nigeria, the national supply gap is mainly filled in by the live animals coming in from the neighboring countries.

In fact, the cattle-beef value chain shows very low productivity and very low value addition. According to data used in the FAO study cited above, the average Nigerian cow weighs only 250 kg at slaughter, compared to 450 kg average slaughter weight in Brazil and more in other developed economies. Moreover, in most countries, the bulk of the industry's value comes from value addition after slaughter, with only 20 % occurring before slaughter. Nigeria, in contrast, produces few value added products.

Despite its importance and the existence of an unsatisfied internal demand for beef, the cattle sector has suffered from inadequate investment by both the public and the private sectors. The National Animal Production Research Institute (NAPRI) maintains an underfunded Beef Research Program.

In addition, areas of cattle production are far from major consuming areas. In fact, cattle trade is the largest market across Nigeria, with live cattle marketed through movements from the northern regions in Nigeria to final consumers in the southernmost parts of the country.

This has led to a situation in which **there are many intermediaries and stakeholders in the marketing chain.** The long spatial distance between the production area and major

¹⁷ Herder-Farmer Conflicts in South-East Nigeria: Assessing the Dangers, Wilson Center, 2022

¹⁸ Ministry of Agriculture (Animal Husbandry Services), Ministry of Environment (Forestry Department), National Agency for the Great Green Walls

consumption areas influences the transportation cost, which contributes to higher marketing costs.

Producers have four different channels to sell their live cattle: directly to households (including corporate firms), live cattle markets, abattoirs, butchers, cattle wholesalers (aggregators), and supermarkets. Based on a study published in 2021¹⁹, 80% of meat from the butcher is sold directly to households and the remaining goes to food vendors and restaurants.

The role that middlemen play in cattle marketing is a peculiar structure of Nigeria's cattle trade. Most local producers sell to cattle wholesalers (aggregators), who in turn sell to other value chain actors. Aside from local producers, aggregators buy and sell cattle from the live cattle market. Therefore, with multiple sources of supply of cattle, cattle wholesalers hold a powerful position in determining cattle price in Nigeria's value chain.²⁰ The involvement of so many intermediaries in the cattle value chain and their power vis-à-vis other actors limit the volume of direct trading between producers and other chain actors, contributing to inefficiencies in the cattle value chain.

The National Livestock Transformation Plan, approved in 2019, prioritizes investment in the dairy sector and proposes ranches to reduce land conflict between pastoralists and farmers.



National cattle traceability system in a very nascent estate

The National Animal Identification and Traceability System (NAITS) launched in 2022 is a comprehensive animal information management system that uses forgery-proof ear tags, as well as cattle passports combined with digital technology for identifying and tracing livestock across Nigeria. This is carried out in accordance with the global standards stipulated by the International Committee for Animal Recording (ICAR).

The NAITS is in line with the National Agricultural Technology and Innovation Policy (NATIP), a policy that was developed to make Nigeria's food and nutrition secure through the extensive adoption of 21st-century knowledge, technology, and innovation in the agricultural sector. It is managed by the Federal Ministry of Agriculture through the Department of Animal Husbandry Services and the Department of Animal Health.

Hides and skins

Nigeria is well known as a leather and leather goods producing country with a good source of raw materials. Data from the Nigerian Economic Summit Group (NESG) Policy Brief published in 2017 show that with over 50 million skins of animals being processed annually, **the leather industry contributes about 24% of the total agriculture GDP in Nigeria.**

It is also one of **the more significant employers of labour in the country**, with over 750.000 workers in the leather processing sector and about 500.000 workers in the finished leather goods sector.

The Nigerian Institute of Leather and Science Technology (NILEST) has estimated that the sector could contribute over \$17.5 billion annually to the nation's GDP with adequate

¹⁹ System dynamics modelling of the cattle value chain in Nigeria, International Livestock Research Institute (ILRI), 2021

²⁰ Analysis of channel and structure of cattle marketing intermediaries in Mubi Local Government Area of Adamawa State, Nigeria, International Journal of Environment, Agriculture and Biotechnology, 2018

government support. In fact, before the oil boom, the hides and skin industry used to be one of the major foreign exchange earners of the Nigeria economy.

Nigeria's leather industry can be categorized into the industrial sector (90% of exports) and the traditional/artisanal sector (10% of exports)²¹. Hides and skin belts are mainly produced in the Northern states. According to Nigerian Tanners Council (2009), over 85% of the tanneries in Nigeria are found in Kano State.²²

While **Nigeria is a net exporter of raw hides and skins including semi-processed leather**, it is also a net importer of finished leather products with total imports of about \$500 million worth leather products annually. The few operating tanneries mainly process hides and skins **to the wet blue level**.

It should be noted that Nigeria's main leather exports come from goats and sheep. In fact, there is a shortage of cattle hides available to tanneries, due to human consumption as a protein supplement. It has been estimated that more than 60% of Nigeria cattle hides and skins are consumed as food ("POMO"). This has led to importation of hides and skins from other countries.

The Nigeria leather sector faces numerous **challenges**, mainly²³:

- **Poor quality of raw hides and skins** due to poor slaughtering and flaying method from the abattoir, as well as low-quality, outdated chemicals.
- Lack of skilled manpower.
- Lack of basic infrastructure, including stable water and power supply.

As a result, the policy brief published by NESG in 2017 estimated that this situation has led to a revenue loss of about \$300 million annually.

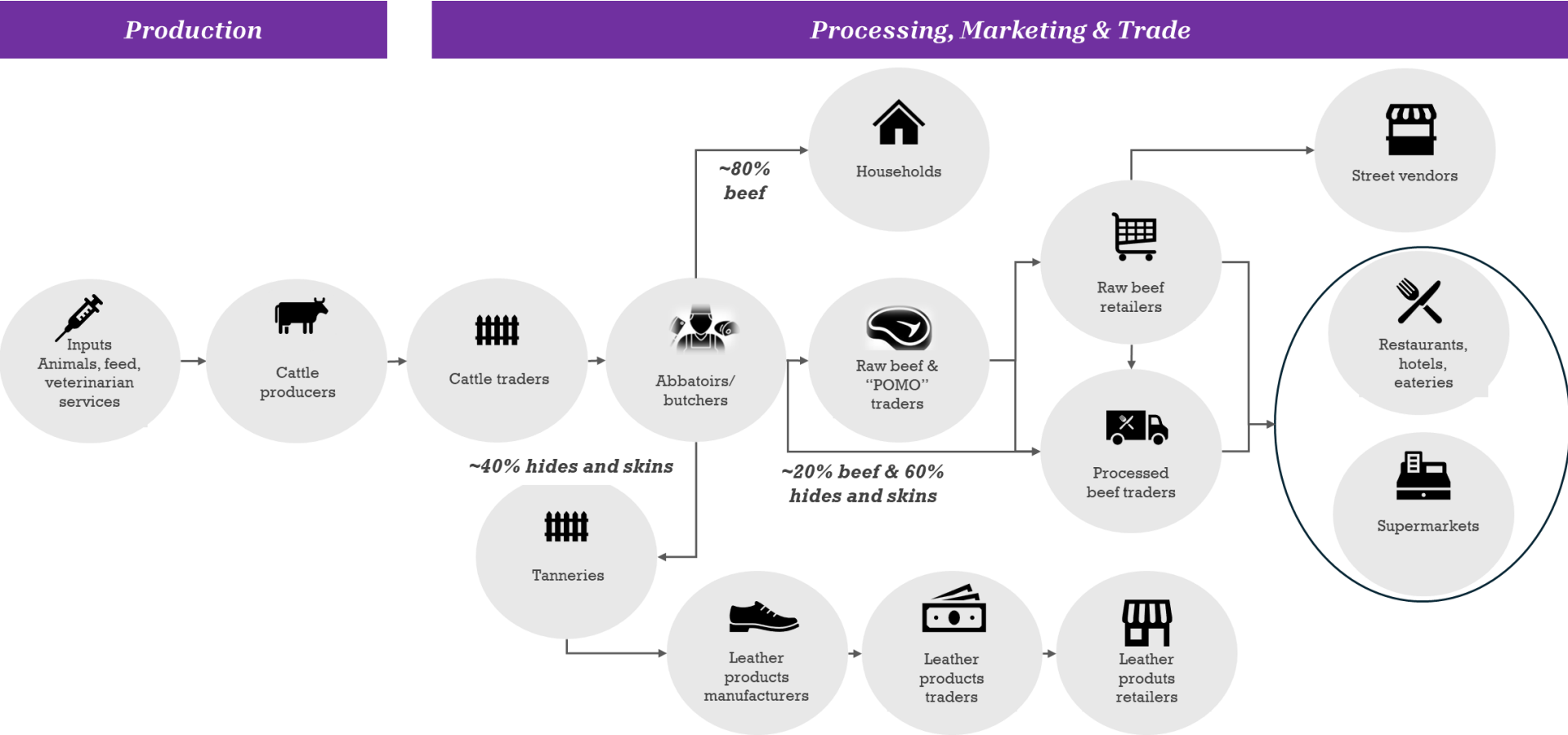
To address the existing challenges, the Federal Government launched in 2020 the National Policy on Leather and Leathers Products, followed by the 2021 Leather and Leather Policy Implementation Plan, with limited funding.

²¹ West Africa Competitiveness Programme, <https://wacomp.ecowas.int/value-chains/hides-and-skin/>

²² Market Structure and Performance of Value Chain Actors in Hides and Skins Processing and Marketing in Nigeria, National Animal Production Research Institute, 2016

²³ Nigeria Leather Sector and the Economy the Missing Links, Journal of Research in Humanities and Social Science, Vol. 10, 2022

Graphic. Cattle-beef & hides and skins value chain²⁴



²⁴ This scheme is a simplification of the actual flows and linkages between value chain actors.

Exports

As discussed above, domestic production of beef and cattle hides and skins does not meet domestic demand. **Exports of these products are sporadic and of low value**, barely a few tens of thousands of euros during the period 2018-2023. The largest export of these categories during this period is only 103,000 euros.

Logically, **exports to the EU are correspondingly negligible**, just €25,000 of cattle hides in 2021. Exports of hides and skins from Nigeria to the EU correspond almost entirely to goat and sheep products.

It is important to note that there is a substantial informal trade of these products across Nigerian borders, notably hides and skins. While impossible to estimate within the scope of this study, some stakeholders stated that Morocco would be a bridge to the EU for cattle hides and skins from Nigeria. Although most beef is consumed domestically, though some herds are moved across Nigeria's northern borders and sold commercially in Niger.²⁵



Sustainability strategies limited to goat and sheep leather products

As mentioned above, leather exports to the EU correspond almost entirely to goat and sheep skins. Only exporters of these products seem to apply sustainability strategies. The Leather Working Group (LWG)²⁶ database shows only 3 certified Nigerian leather companies²⁷, and all of them are involved in the manufacture of goat and sheep leather products.

²⁵ Illegal Deforestation for Forest-risk Commodities Dashboard: Nigeria, Forest Trends, 2022

²⁶ Leather Working Group (LWG) is a not-for-profit global standards organization, representing a quarter of the world's finished leather production, with audited sites in 55 countries. It is gradually aligning its requirements to the EUDR obligations.

²⁷https://www.leatherworkinggroup.com/get-involved/our-community/certified-suppliers/?tx_llcatalog_pi%5Bfilters%5D%5Bsite_type%5D%5B%5D=all&tx_llcatalog_pi%5Bfilters%5D%5BBrating%5D%5B%5D=all&tx_llcatalog_pi%5Bfilters%5D%5Bleather_type%5D%5B%5D=all&tx_llcatalog_pi%5Bfilters%5D%5Banimal_type%5D%5B%5D=all&tx_llcatalog_pi%5Bfilters%5D%5Btannage_type%5D%5B%5D=all&tx_llcatalog_pi%5Bfilters%5D%5Bcountry%5D%5B%5D=155&tx_llcatalog_pi%5Bfilters%5D%5Bkeywords%5D=#c4672

2.2. Cocoa value chain

Nigeria is the third largest exporter in Africa and the fourth world's largest producer of raw cocoa beans, after the Ivory Coast, Ghana, and Indonesia. It accounts for **5% of world production**²⁸. The average quantity of cocoa produced in Nigeria between the years 2000 to 2019 was 366,971 MT /annum with an increase of 39% from about 225,000 tons recorded in 1999.²⁹ Production in 2023-2024 is expected to reach 225,000 tons, 24% less than the initial forecast of 296,000 MT.³⁰

The cocoa sector is the highest non-oil foreign-exchange earner in Nigeria with five Niger Delta states - Abia, Akwa Ibom, Cross River, Edo, and Ondo - contributing 75 % of the 225,000 MT produced annually.³¹

The Nigerian cocoa sector is **dominated by smallholder farmers** numbering 300,000 – 350,000 with some commercial plantations. A significant percentage of the cocoa that is produced in Nigeria comes from smallholder farms. It has been estimated³² that **87.50% of the farmers own farms of less than 5 hectares**, and the average size of cocoa farms is 1.5 to 2.5ha³³.

As a result, cocoa production in Nigeria is a subsistence model and harvesting is done in small quantities. Many farmers are reluctant to remain on the farm because of earnings that are far below their expectations. For example,³⁴ a 3-hectare farm may produce an average of 400 kg of cocoa beans per hectare and make a net income of about N840,000 per annum. This can hardly meet the needs of a household as well as the management of the farm. Moreover, the unstable international prices make it difficult for farmers to project and plan effectively on yearly income.



Significant presence of cocoa plots in protected areas

Although there is no official data, it appears that a percentage of cocoa plots are located in protected areas and therefore, regardless of when they caused the deforestation, would not meet the legality condition of the EUDR.

On the one hand, some international traders have acknowledged that a "substantial" percentage of cocoa comes from plots located in protected areas. On the other hand, according to data provided by the Ministry of Environment during the field mission, about **40% of agricultural farms** - and "a higher percentage of cocoa plots" – could be **located in protected areas**. This estimation would be based on an assessment carried out through the ministry's Geographic Information System (GIS). It is important to note that these data are in line with the situation in other producing countries. For instance, a land use

²⁸ Comparative study on the distribution of value in European chocolate chains, FAO, 2020

²⁹ Impact of compliance with European Union (EU) regulations on the income of actors along the cocoa supply chain in Osun state, Nigeria, Sustainable Futures, 2023

³⁰ Cocoa Farmers Association of Nigeria (CFAN)

³¹ Nigeria Export promotion Council: <https://nepc.gov.ng/importer/nigeria-product/cocoa/>

³² Competitiveness and Comparative Advantage of Cocoa Production in Southwestern Nigeria. A Policy Analysis Approach, International Journal of Research in Agriculture and Forestry, 2017

³³ Data provided by the Ministry of Agriculture during the field mission

³⁴

map for Ivory Coast published in 2023 showed that around 30% of cocoa and coffee farms are located within classified forests. Estimates for countries in other regions (for instance, Peru) are more or less similar.

In fact, while great opportunities exist in the Nigerian cocoa sector, the country continues to score low on yield and quality. The national focus on oil exports in the last decades has led to the neglect and degradation of the agricultural sector, including cocoa production.

Persistent low productivity, absence of institutional control and administrative inefficiencies in the sector have resulted in **low profitability for farmers**. Low yields are attributed to aging plantations and aging farmers, soil depletion and high disease incidence, while low quality is caused by poor fermentation, drying, and storing.

Cocoa was a regulated sector until 1986, when the Marketing Board was eliminated in 1986. The liberalization by the federal government of the export pricing policy enabled the marketing of cocoa beans to be handled by private cocoa merchants, while at the same time a new foreign exchange system (the Second Tier Foreign Exchange Market, SFEM) was introduced as part of government Structural Adjustment Program (SAP).

Following the reform, many of the institutional structures that were set up to enhance quality cocoa, provide technical support to farmers and facilitate their access to production inputs and financial resources, were removed.



Cross River state strategy to develop a sustainable cocoa value chain

In recent years, **Cross River State has fostered partnerships with both local and international stakeholders to strengthen the cocoa value chain**. Collaborations with research institutions, private sector players, and development agencies have facilitated knowledge transfer, technology adoption, and market access for cocoa farmers in the state.

One of the key factors driving Cross River's ascent to the top of Nigeria's cocoa production is the government's robust support for local farmers. The state has implemented various agricultural extension programs, providing farmers with the necessary knowledge, tools, and resources to enhance productivity and yield quality cocoa beans.

Furthermore, the **state government has actively promoted sustainable and environmentally friendly farming practices** aligned with global efforts to create a more sustainable and ecologically conscious cocoa industry. The state government has declared that it aims to ensure that cocoa production is compliant with the EUDR.

In March 2024 the state government launched a multi-stakeholder committee to develop a 7-year Strategic framework for the optimization of the oil palm, cocoa, and coffee value chains in Cross River. At the time of drafting this report, the framework is still at a very preliminary level. It aims to include ways for the administration to mobilize resources for the establishment of six new cocoa estates (2.000 ha each) in line with climate and biodiversity considerations; evaluate existing laws on cocoa and oil palm production as well as make necessary adjustments for growth.

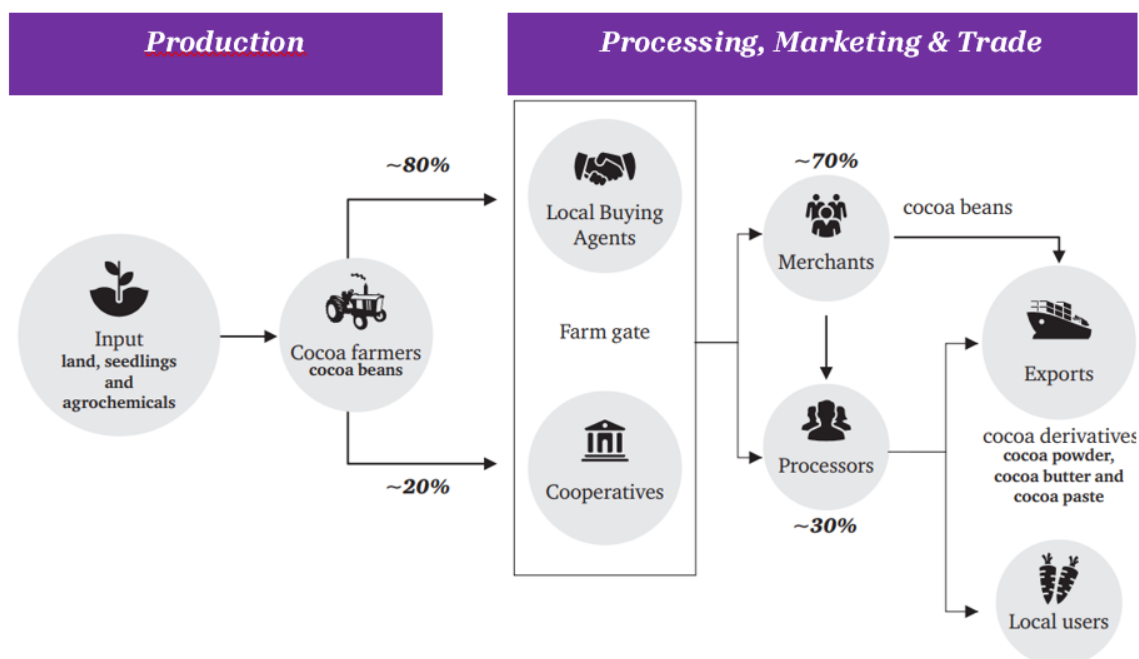
With the 1986 reform, both internal and external cocoa marketing structures were fully privatized. Licensed Buying Agents (LBAs) were authorized to purchase cocoa from farmers and sell it to wholesalers, processors and exporters.

Indeed, LBAs play a major role in cocoa marketing. They provide farmers with loans and sell them inputs on credit. They also play a key role in terms of logistics, accessing remote farms and aggregating production from small plots into commercially feasible lots.³⁵ As a result, **cocoa is not usually transported directly from fields to processing companies.** Instead, it goes **through several intermediaries** to reach the facilities where value it is processed.

In this context, local buyers exert great power over producers, and in some instances seize the opportunity to buy cocoa at a low price. Conversely, cocoa is a very important household cash-crop, and when producers have an urgent need for money, they sell the products to the highest bidder. As a result, many transactions are carried out without paying attention to the quality of the product.

It has been estimated³⁶ that LBAs represent around 80% of cocoa beans trade, and cooperatives only 20%.

Graphic. Nigeria cocoa value chain³⁷



The **low rate of producer associativity** reduces their bargaining power and hinders their access to the resources needed to move away from a subsistence model. Indeed, membership in agricultural cooperatives has a significant influence on the adoption of improved technologies and the producers' ability to comply with international regulations.³⁸

³⁵ The role of cocoa buying agents in cocoa value chain in Southwestern Nigeria, *Journal of Agriculture and Rural Research*, 2017

³⁶ Transforming Nigeria's Agricultural Value Chain. A case study of the Cocoa and Dairy industries, PWC, 2017

³⁷ PWC, 2017

³⁸ Agricultural Cooperatives and Improved Technologies Adoption among Smallholder Farmers in Cocoa-Based Farming Systems of Southwestern Nigeria, *International Journal of Agricultural Management and Development*, 2021



Membership to associations and access to extension services are key to facilitate compliance with EU regulations.

A 2013 study³⁹ assessed the impact of compliance with EU sanitary and phytosanitary measures on the income of actors along the cocoa supply chain in Osun state, Nigeria.

The results of the analysis showed that the determinants of the decision to comply with EU regulations were mainly access to extension agents and membership in an association. Furthermore, the study concluded that compliance with EU regulations on cocoa had a positive impact on the income of cocoa farmers and exporters in the study area. Indeed, producers who achieved compliance with these regulations saw a large increase in their gross income, up to 61,43%.

Nigeria is yet to fully capitalize on cocoa production, **as most of the beans are sold unprocessed**. About 70-80% of cocoa produced is exported as cocoa beans while the rest is processed into powder, butter, cake and liquor. The domestic market for processed cocoa is not well developed, and as a result an estimated 90% of cocoa derivatives are exported.

There are **eight cocoa processing factories in Nigeria** with a combined installed capacity of 150,000 metric tons. Only four of the eight are functional with combined total volume of 50,000 metric tons per annum.⁴⁰

In a survey carried out by PWC in 2017⁴¹, processors highlighted insufficient cocoa beans as one of the factors responsible for low-capacity utilization. This could be caused by the preference of LBAs and cooperatives to sell cocoa beans to traders and merchants, who quote higher prices than processors.

It has been estimated that approximately 116,958 tons of cocoa (a bit over 50% of total bean production) produced in Nigeria are certified under the Rainforest Alliance.⁴²

The **main organizations in the cocoa sector** are:

- **Cocoa Association of Nigeria (CAN)**: established in 1986, it covers the entire cocoa value chain, including producers, processors and other stakeholders. CAN is also the private sector representative of Nigeria in all international cocoa organizations.
- **Cocoa Farmers Association of Nigeria (CFAN)**: established in 1999, it is the umbrella body for the smallholder cocoa farmers.
- **Cocoa Research Institute of Nigeria (CRIN)**: established in 1964 as a successor autonomous research organization to the Nigerian Substation of the defunct West African Cocoa Research Institute (WACRI). It aims to apply science and technology in increasing productivity, improving quality and value addition of cashew, cocoa, coffee, cola and tea.
- **National Cocoa Management Committee (NCMC)**: launched in 2022 by the Federal Government of Nigeria, aimed to tackle challenges in cocoa production.

The NCMC, led by the Ministry of Agriculture, has developed a framework for the regulation and monitoring of the activities of the cocoa sector to make the industry more transparent. It has also developed a strategic plan towards the establishment of a Nigerian Cocoa Board.

³⁹ Impact of compliance with European Union (EU) regulations on the income of actors along the cocoa supply chain in Osun state, Nigeria, Sustainable Futures, December 2013

⁴⁰ Cocoa production pattern in Nigeria: the missing link in regional agro-economic development, Annals of the University of Oradea, Geography Series, 2020

⁴¹ PWC, 2017

⁴² Illegal Deforestation for Forest-risk Commodities Dashboard: Nigeria, Forest Trends, 2022

This proposal is currently a Bill that, if approved, would mean the development of a semi-regulated sector, in which the public sector would regulate and support production, while commercialization would remain in the hands of the private sector.

In November 2023, the Ministry of Industry, Trade, and Investment published a 10-year National Cocoa Plan 2023-2032 (NCP). This comprehensive and ambitious roadmap aims to sustainably develop Nigeria's cocoa sector by increasing productivity, improving quality, and diversifying the industry. The Government aims to reach a production of 500.000 tons by 2025 and 750.000 in 2032. Unfortunately, the NCP is still pending implementation due to insufficient funds and technical capabilities.

Exports

Exports of cocoa from Nigeria have more than doubled between 2019 and 2023, to reach over 700 million Euro. However, a significant part of this growth is due to higher prices and temporary increasing demand, as the international market has been shaken by low production in Ghana and Ivory Coast.

As discussed earlier, almost all cocoa (cocoa beans, or processed cocoa) is destined for export. According to data from the Ministry of Agriculture, Nigeria's cocoa exports accounted for 5.6% of the country's total non-oil exports and 29% of the total agricultural exports in 2023.

The EU is the largest importer of Nigerian cocoa and represents around 67% of all cocoa exports from the country. However, the importance of the EU market has gradually declined during the last decade, with a maximum share of 81% in 2019 and a minimum share of 59% in 2023.

Non-EU markets like Malaysia, Indonesia, USA, Canada or Türkiye have increased their imports Nigerian cocoa significantly during this period.



EUDR adaptation strategy, effectively limited to international traders and large exporters

Cocoa stakeholders are generally aware of the scope and requirements of the EUDR. Nonetheless, many uncertainties remain as to the operational details of the EUDR, the resolution of satellite images, the technical specifications of the tools that the European authorities will use to assess deforestation, the scope of the legality requirement, etc.

The CNMC tries to coordinate efforts to implement accompanying measures across the value chain. However, these are hindered by a weak regulatory framework and lack of resources.

In July 2024 Johnvent's Industries Limited -one of the largest national cocoa processors- and the World Bank's International Finance Corporation (IFC) announced a US\$23.3 million financial package to expand Johnvent's cocoa operations in Nigeria. The investment package is expected to achieve 100% traceable cocoa, with at least 90% certified by 2027.

For their part, international traders are implementing specific measures to reinforce the compliance of their exports to EUDR requirements. During the mission and according to unofficial data, it was estimated that around 60-70% of exports of cocoa are driven by international traders (OLAM, BARRY CALEBAUT, TULIPS-ECOM, SUCDEN, etc.). They have

strengthened traceability throughout their supply chains, supported the geolocation of farms and have started to assess deforestation after the EUDR cut-off date.

Graph. Exports of cocoa from Nigeria to the EU, 2018-2022⁴³

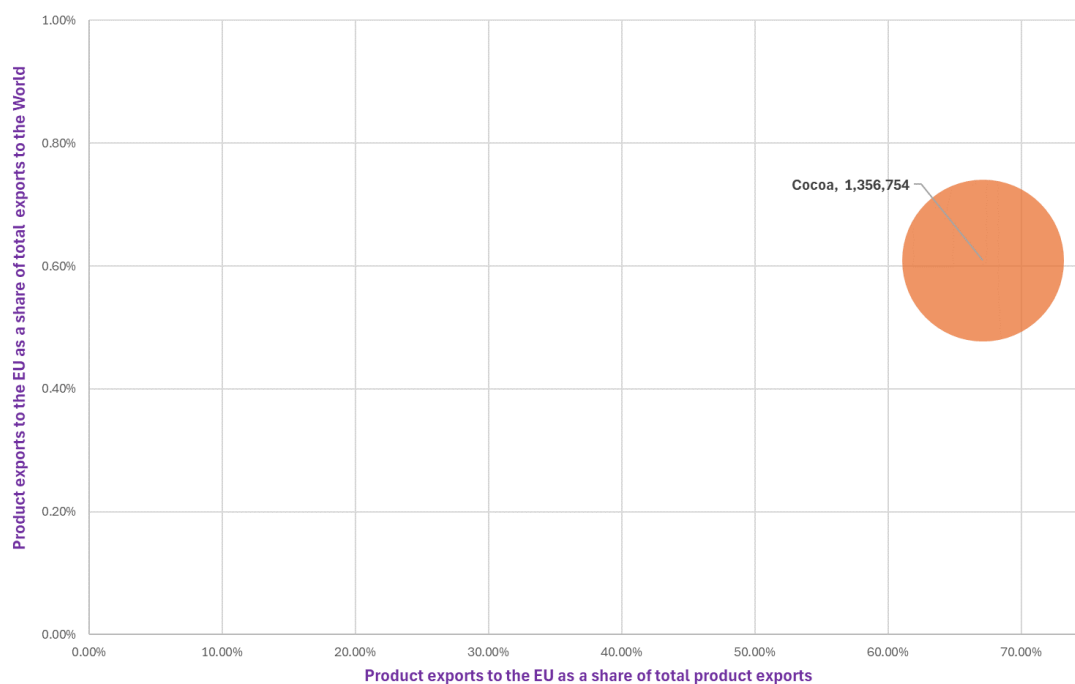


Table. Exports of cocoa from Nigeria⁴⁴

Importers	2019	2020	2021	2022	2023
World	278.142	293.319	531.555	649.434	701.822
Netherlands	108.817	120.624	169.309	234.927	521.123
Malaysia	14.044	19.124	108.378	79.575	145.685
Germany	71.622	43.639	71.284	83.177	80.385
Indonesia	26.606	27.205	52.031	92.871	73.740
Belgium	24.972	22.865	29.429	72.919	33.420
USA	4.619	11.580	29.088	17.317	28.173
Estonia	10.796	6.794	2.780	13.280	19.029
Italy	606	1.215	2.617	10.131	18.464
Canada	0	4.764	25.429	17.764	14.119
Türkiye	457	199	3.272	486	9.432
Spain	9.728	6.014	8.908	10.445	9.105

⁴³ The size of bubbles represents the quantity of exports in thousand Euro, for the 2019-2022 period.

⁴⁴ In thousand Euro. Source Trademap, International Trade Center (ITC) based on statistics from Nigeria's National Bureau of Statistics

2.3. Rubber value chain

Nigeria is the third largest producer of natural rubber in Africa after Ivory Coast and the eleventh in the world. With an estimated 200,000 hectares⁴⁵ of rubber plantations and small farms, it ranks seventh in the world in production, but twenty-fifth in yield per hectare.⁴⁶ Rubber is grown in Edo, Delta, Ondo, Ogun, Abia, Anambra, Akwa Ibom, Cross River, Rivers, Ebonyi, Kaduna and Bayelsa States.

Rubber was a regulated sector until 1986, when the Rubber Marketing Board was dissolved in 1986, as part of the Structural Adjustment Programme (SAP) by the federal government. This programme resulted in a liberalized marketing system, and a substantial increase in the production of rubber in Nigeria. According to the Nigerian Export Promotion Council (NEPC) in those years, rubber used to be Nigeria's 3rd highest foreign exchange earner after cocoa and palm oil.

The subsequent focus of the federal government on oil, volatile rubber prices in the international market and the declining role of agricultural products in the generation of foreign currency in Nigeria led to the marginalization of rubber and a continued fall in its production.

During the peak production years, the rubber industry in Nigeria had 54 factories with an overall installed processing capacity of 600,000 tons natural rubber/year but operated at 20% capacity. This gradually reduced to about 20 factories due to government neglect of the sector which resulted in a loss of about 40% in rubber exports.⁴⁷

In 2006 it was estimated⁴⁸ that only about 40% of Nigeria's rubber potential was being exploited. This was a result of the abandonment and felling of trees, particularly by smallholders who planted other food and cash crops such as oil palms, plantain and cassava. According to the NEPC aging plantations and low yields led to the shutdown of about 82% of rubber processing factories in Nigeria including Michelin Nigeria Limited.

More recently, the **increasing demand for natural rubber in international markets**, particularly from Asia and Europe, has driven **expansion in production capacities**. Current expansion of rubber plantations is also supported by the preference of this crop in reforestation programmes led by the Nigerian Federal Government.

The average annual production between 1995 and 2013 was 73,531 metric tons and declined to 53,000 metric tons in 2017⁴⁹. **Current production stands at approximately 350,000 metric tons per year.**⁵⁰

The Federal Ministry of agriculture over the years prioritized and promoted the development of the rubber value chain with the distribution of improved rubber planting materials. The 2006 Presidential Initiative on Rubber (PIR) aimed to provide support to the sector for 12 years, but it was short-lived.

⁴⁵ <https://dailytrust.com/why-nigeria-is-not-doing-well-in-rubber-production/>

⁴⁶ Natural Rubber value chains: A game changer for smallholders, International Association of Agricultural Economists, 2018

⁴⁷ <https://brandongaille.com/19-nigeria-rubber-industry-statistics-and-trends/>

⁴⁸ <https://businessday.ng/analysis/article/why-nigeria-should-rehabilitate-rubber-plantations-in-the-country/>

⁴⁹ International Rubber Study Group (2017). Rubber Statistical Bulletin, 17, 2017

⁵⁰ Factors Affecting the Production and Sustainability of Natural Rubber Production in Nigeria (Trends and Overviews), Official Publication of Direct Research Journal of Agriculture and Food Science, Vol. 8, 2020



Limited contribution of rubber to deforestation

Although there is no official data, it would appear that rubber sector contribution to deforestation since the EUDR cut-off date (30 December 2020) has been limited. Rubber trees are being used preferentially in reforestation programs led by the federal government and are therefore being planted mostly in degraded lands and fallow areas. Therefore, there is no need to deforest to increase the production area.

Rubber Estates Nigeria Limited (RENL) has conducted a pilot test to assess the compliance of 560 smallholder plots with the EUDR deforestation condition. Only 13 plots (2.3%) would have been deforested after the EUDR cut-off date. Obviously, the value of this result is limited, and the results cannot be extrapolated to the national level. But this percentage is consistent with the impression that rubber value chain has not been a key contributor to deforestation in the last years.

There is a risk that rubber production will fall rapidly in the coming years, due to the aging of the trees and the long maturation period required before reaching production age.

In April 2023 it launched a new initiative aimed at enhancing the production of rubber. The ministry, in collaboration with the Lohashilpi Sheeting Processing Technology, established the Rubber Resource Centre (RRC), in Ovia Southwest Local Government Area of Edo.

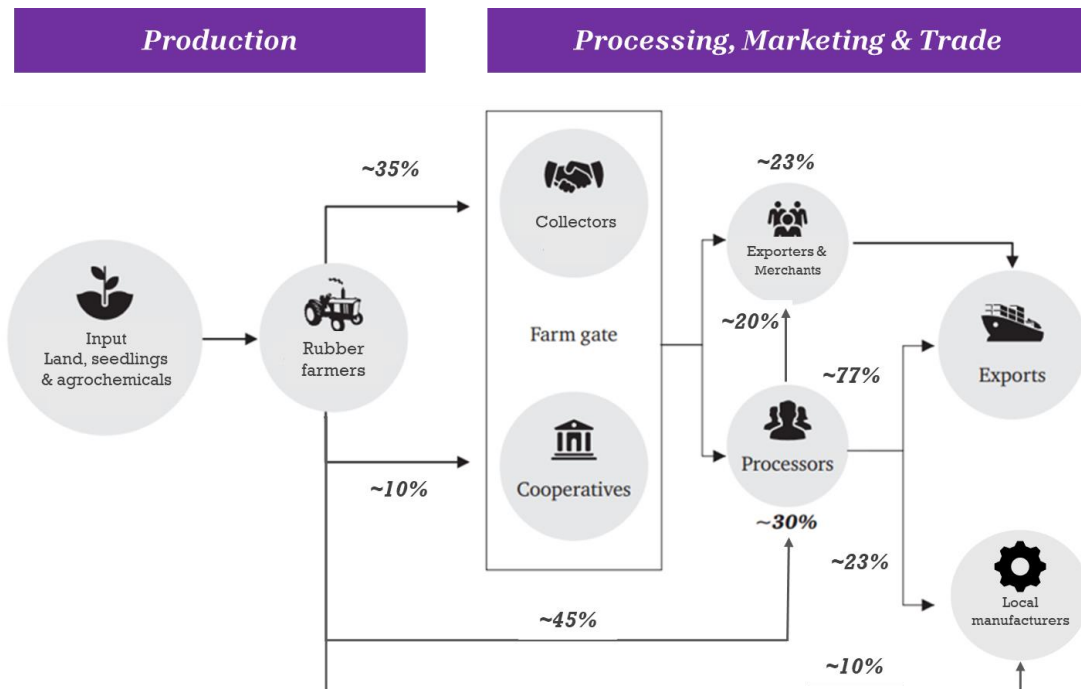
Around 62.34% of the total area under rubber cultivation is owned by small farmers, with the remainder made up of large estates owned by multinational companies who usually have their own processing facilities.⁵¹ Smallholder rubber farmers sell about 98%⁵² of their total production as raw unprocessed rubber lump and in doing so, profit margins are slim. Adding value to natural rubber could generate higher profits.

As shown in the graphic below, it has been estimated that **farmers sell their products to processors (45%), collectors (35%), cooperatives (10%) and local manufacturers (10%)**.

⁵¹ Economics of Smallholder Rubber Production under Different Tapping Arrangements in Delta State, Nigeria, Nigerian Agricultura Journal, Vol. 53, 2022

⁵² AAAE, 2019

Graphic. Nigeria rubber value chain⁵³



There is also a weak agricultural extension services to provide training and retraining needed by the farmers and stakeholders. Rubber production is highly technical, from nursery production, plantation establishment, maintenance, exploitation, processing to marketing.

The main organizations in the rubber sector are:

- **National Rubber Producers, Processors and Marketers Association of Nigeria (NARPPMAN)**: is the national association that represents the interests of all actors in the value chain and seeks to promote rubber cultivation at the national level.
- **Rubber Research Institute of Nigeria (RRIN)**: its mission is to support the production of rubber in Nigeria. In recent years it has developed new genetic varieties with increased productivity and has launched an integrated farming system for rubber plantations in which arable crops such as yam, cassava, pineapple, cooking banana and sweet potatoes can be incorporated into rubber-planted areas to increase farmer incomes.

Exports

Nigeria exports roughly 65% of rubber production. Almost 100% of exports of rubber from Nigeria correspond to **non-processed, natural rubber**. Exports have fluctuated during the last decade. From a maximum of 67,9 million Euro in 2014, to a minimum of 18,3 million Euro in 2020.

The EU is the largest importer of Nigerian natural rubber and represents around **72% of all rubber exports from the country**.

⁵³ Production and Marketing Constraints of Natural Rubber Value Chain in Nigeria, 2019 Sixth International Conference, September 23-26, 2019, Abuja, Nigeria 295803, African Association of Agricultural Economists (AAAE)



EUDR adaptation strategy, effectively limited to EU groups

Exports of rubber from Nigeria to the EU are led by a few large rubber processors that are owned by EU rubber groups (Rubber Estate Nigeria Limited-Groupe SIFCA/Michelin; Okomu Oil-SOCFIN).

Although national stakeholders are aware of the EUDR requirements, **the adaptation process is being driven by these EU large processors**. Geolocation of farms and strengthening of traceability systems are taking place across all the value chain. Moreover, **some processors are also implementing due diligence tools to verify compliance with national legislation** (RENL explained that they have engaged Preferred by Nature to develop a “legality certification” adapted to smallholders).

In addition, it should be noted that **EU rubber multinationals already implement due diligence and sustainability measures along their supply chains**. For instance, Michelin reports that it has significantly increased the proportion of its suppliers evaluated EcoVadis⁵⁴, from around 50% in 2013 to over 85% in 2020.⁵⁵ SOCFIN’s information related to environmental, social and corporate responsibility issues is assessed by neutral agencies, such as SPOTT⁵⁶ or Forest 500/Global Canopy⁵⁷. This should facilitate the adaptation of the rubber value chain to the EUDR requirements.

Graph. Exports of rubber from Nigeria to the EU, 2018-2022⁵⁸

⁵⁴ EcoVadis is a globally recognized assessment platform that rates businesses’ sustainability based on four key categories: environmental impact, labor, and human rights standards, ethics, and procurement practices.

⁵⁵ <https://purchasing.michelin.com/fr/evaluation-de-notre-chaine-dapprovisionnement-en-caoutchouc-nature/>

⁵⁶ SPOTT supports the financial sector and supply chain stakeholders to manage ESG risk through its assessment of the public disclosure and reporting of soft commodity companies.

⁵⁷ Global Canopy’s Forest 500 report assesses the most influential companies and financial institutions on the strength and implementation of their publicly available commitments on deforestation, habitat conversion, and the associated human rights abuses.

⁵⁸ The size of bubbles represents the quantity of exports in thousand Euro, for the 2019-2022 period.

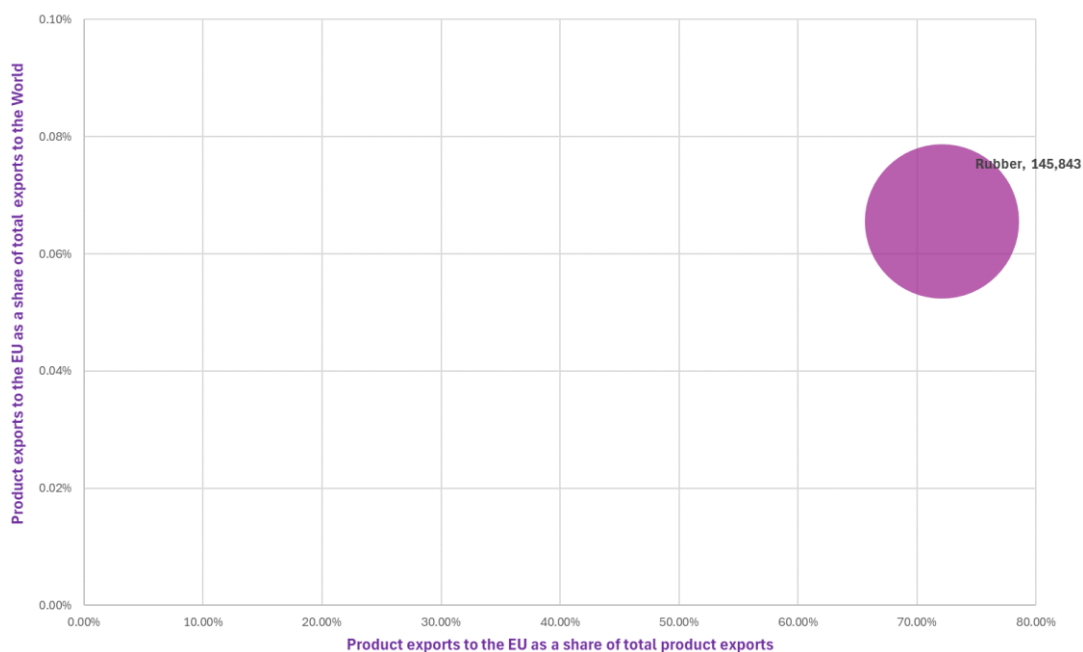


Table. Exports of rubber from Nigeria⁵⁹

Importers	2019	2020	2021	2022	2023
World	37.588	18.322	48.288	61.492	50.235
Spain	8.249	3.935	7.546	16.406	20.626
Italy	3.361	1.885	5.542	8.620	11.332
Malaysia	1.174	1.145	1.053	546	5.836
Poland	748	507	4.237	3.493	4.388
South Africa	2.840	1.630	4.866	4.744	2.629
China	3.429	1.560	4.320	3.769	2.094
India	959	306	2.074	5.700	1.328
USA	0	0	139	206	602
Finland	216	0	289	1.136	522
Vietnam	107	0	0	0	512
Korea	0	0	0	0	224
Germany	2.264	871	2.245	1.559	141

⁵⁹ In thousand Euro. Source Trademap, International Trade Center (ITC) based on statistics from Nigeria's National Bureau of Statistics

2.4. Wood value chain

Logging and timber processing for domestic consumption and export played a vital role in the Nigerian economy until the early 1970s, and the 1960s are often referred to as the golden age of Nigerian forestry. However, due to poor management of forest resources, infrastructural deficiencies, economic recession and other factors, **the industry fell out of favor from the mid-1970s onwards.**⁶⁰ Even so, the timber sector is of enormous importance in economic and social terms, and the Tropical Timber Exporters Association of Nigeria (TWEAN) estimates that some 5 million people are currently involved in the Nigerian timber value chain.⁶¹

While primary wood processing plants, which include logging, sawmilling and charcoal making, managed to survive, virtually all secondary wood processing plants, excluding those involved in furniture production, had disappeared by 2000.

The sawmilling industry continues to be dominated by small private companies located in clusters in and around towns and cities in timber-producing areas. Manual labor in sawmilling operations is considerable.

The **major challenges facing timber and wood processing** in Nigeria include:

- The very rapid rate of deforestation and desertification in many parts of the country is leading to a wood supply crisis.
- Lack of appropriate logging equipment and facilities.
- Full-scale logging season is just about 5 months, i.e. November to early March (dry season).
- Frequent electricity outages and voltage fluctuation which often halt production, damage equipment and affect product quality
-

Two of the consequential effects of this situation are the unsustainable use of wood raw materials and poor product quality.

A recent positive development is that some log processing equipment is now manufactured locally, at a lower price than imported machinery. As a result, it is becoming increasingly popular to set up small-scale sawmills without the need to import machinery.

Although a few new medium-sized mills for plywood and match production have appeared in recent years, massive importation of secondary wood products has become inevitable in the face of rapid population growth, urbanization, deforestation and desertification.

Wood furniture production has also continued to be dominated by small companies, with a much smaller number of medium and large factories.

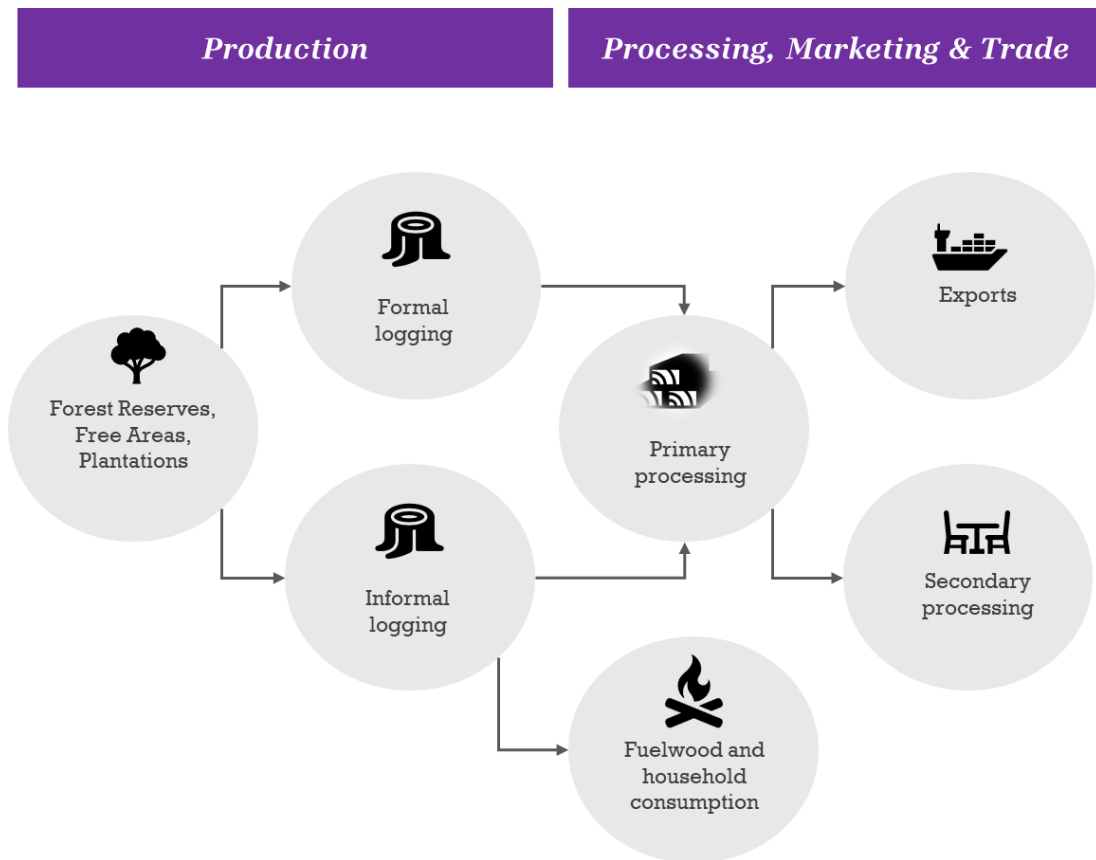
Charcoal production continues to thrive in the savanna regions of the country. Locally produced charcoal usually reaches the end user through wholesalers and retailers. Retail

⁶⁰ The Past, Present and Future Outlook of the Wood Industry in Nigeria, Wood Industry - Past, Present and Future Outlook, 2023

⁶¹ <https://sweetcrudereports.com/nigerias-wood-export-industry-is-now-highly-regulated/>

outlets include markets and makeshift stalls along major roads. Nigerian charcoal cannot compete effectively in international markets due to large quality differences.⁶²

Graphic. Timber value chain⁶³



Charcoal production still thrives in the savanna regions of the country. The locally produced charcoal usually reaches its ultimate domestic user through wholesalers and retailers. Retail points include markets and makeshift stands along major roads. Nigerian charcoal cannot compete effectively in international markets due to gross variation in quality.

There are **four main timber source types** found in Nigeria⁶⁴:

1. **Forest Reserve.** These are the main source of timber. Forest types within the forest reserves vary according to ecological classification. Hence, forest reserves in the Savanna and Sahel regions may not necessarily have timber resources like those in the lowland rain forest areas of southern Nigeria. All forest reserves are owned by the State Governments and managed by the State Forestry Departments (SFDS).
2. **Free Areas.** These are areas outside the Forest Reserves boundaries. Free Areas are forested areas that are not under strict management by the SFDs, but permission to exploit trees from Free Areas must be obtained from SFDs. The areas are important for private forestry development, and some of the areas have been targeted as Potential Plantation Areas (PPAs).
3. **Plantation in Forest Reserves.** Areas of Forest Reserves reforested with plantation species.

⁶² Charcoal production and producers' tree species preference in Borgu local government area of Niger state, Nigeria. Journal of Energy Technologies and Policy. 2015

⁶³ This scheme is a simplification of the actual flows and linkages between value chain actors.

⁶⁴ Timber Legality Risk Assessment: Nigeria, Preferred by Nature, 2021

4. **Private Plantations.** Plantations owned by non-government individuals, groups or corporate organizations are usually established on private lands.

Timber harvesting is regulated by the Forestry Department of the **Federal Ministry of Environment**. The department oversees the issuance of logging permits and aims to ensure that logging activities comply with environmental laws and regulations. Companies engaged in timber extraction are required to obtain permits before felling any trees.



Traceability is feasible in theory, but it is hindered by weak enforcement and a large informal sector

Traceability of timber exported from Nigeria could be facilitated by the requirement to obtain previous authorization from the Forestry Department of the Federal Ministry of Environment and the need to precisely identify and map the logging area.

However, despite efforts to promote sustainability, Nigeria faces several challenges in forestry management. Illegal logging remains a significant issue driven by high demand for timber and agricultural expansion.

Enforcement of forestry laws and regulations poses another challenge. Limited resources and capacity make effective monitoring and control of logging activities difficult, allowing illegal practices to persist.

Weak governance and corruption further complicate efforts to combat deforestation and promote sustainable land management.

In fact, **the Nigerian government has implemented measures to prevent overexploitation of forest resources and promote sustainable logging practices.** These measures include setting limits on the amount of timber that can be harvested, implementing guidelines for reforestation and forest management, and monitoring logging activities to prevent illegal logging.

In 2021, export of wood products from Nigeria was effectively banned. This was a response to accelerated illegal deforestation across the country. The ban was “conditionally” lifted in January 2023 and was followed by the issuance of the Revised policy guidelines on the exportation of processed wood and charcoal as part of the Federal Ministry of Environment to implement measures to effectively manage the nation’s forest resources.

While the status of the ban is not clear at the time of writing this report⁶⁵, the Revised policy guidelines make it mandatory for the players in the wood industry particularly wood exporters to establish forest plantations of their own.

The government has also imposed restrictions on timber exports, limiting them to a maximum of 200 containers per year per company. In addition, the policy states: "Based on the principle of sustainability, the Ministry will determine from time to time the amount of processed timber to be exported and the export fees to be paid to the government."

In addition, loggers are required to undertake afforestation projects and source from their own plantations.

⁶⁵ In an interview with the Federal Department of Forestry, the consultants were informed that the ban was effectively in place, and that the objective was to restrain logging with a long-term strategy of forest preservation.

Timber export fees have also increased substantially, with a 150% increase for domestic exporters, from 100,000 to 250,000 naira per 20-foot container. Foreign exporters face an even greater hike, as rates have shot up by 350%, from 150,000 to 500,000 naira per 20-foot container.

Preferred by Nature's "Timber Legality Assessment", cited above, includes a list of key "legality" risks throughout the value chain, namely:

1. Timber Harvesting Activities risks
 - Harvesting regulation are violated
 - Logging is performed in the National Parks and protected areas
 - Illegal logging of protected species occurs without a permit
 - Harvesting is performed without Environmental Impact Assessment
 - Waste is left by logging operators
 - Obligations relating to the safety of the workers are not respected
 - Foreign workers work without required permission (
 - Forest companies hire workers illegally
 -
2. Trade and transport risks
 - False declarations are made regarding species and their volume on transport permits
 - Hammer marks are misused
 - Some unregistered vehicles may be engaged in movement of logs which have been illegally harvested
 - Transfer pricing laws are not followed
 - Bill of Lading does not contain required information
 - Export of non-processed logs and sawn wood occur
 - Illegal timber is exported
 - Transport documents do not contain required information
 - CITES species are exported without required permits
 -
3. Processing risks:
 - Companies operate without legal registration of business
 - Processing is performed without Environmental Impact Assessment
 - Obligations relating to the safety of the workers are not respected
 - Foreign workers work without required permission
 - Forest companies hire workers illegally

The **main association** is the **Tropical Wood Exporters Association of Nigeria**, TWEAN.

Besides de Federal Forestry Department, and States' environment ministries, **relevant actors of the value chain** are:

- **Forestry Research Institute of Nigeria (FRIN)**
- **Federal Institute of Industrial Research Oshodi (FIIRO)**

These institutes aim respectively at accelerating the industrialization of the Nigerian wood value chain and upgrading production technologies.

Exports

Exports to the EU are not significant. Although trade data are understandably affected by the 2021 timber export ban, sales to the EU are fluctuating and rather sporadic even before 2021. Nigeria's EUDR-covered timber exports to the EU in 2018-2022 amount to only €5,1 million and accounted for 10.35% of Nigeria's total timber exports (about €49,6 million).

According to WITS data⁶⁶ the main importers of wood products from Nigeria are Ghana, Vietnam, Burkina Faso, the EU, Singapore, Ivory Coast, United Arab Emirates, the EU, India, China and Israel. Most of this trade corresponds to countries with low sustainability standards.

Exports are carried out usually through the seaports but there are few cases of land border trade. Both legal and illegal wood exports occur through the land borders of Nigeria with Cameroon to the east, Niger and Benin Republic to the west, and Chad Republic to the north.⁶⁷

Due to the weakness of the processing timber industry discussed above, most of the wood exported from Nigeria has little or no value added, as shown in the tables below.

Bellow we present only data for products covered by the EUDR and for which Nigerian exports are not negligible during the period.

Tables. Exports of wood from Nigeria⁶⁸

Product 4401: fuel wood

Importers	2019	2020	2021	2022	2023
World	80	307	131	0	210
Portugal	0	11	36	0	147
Italy	0	0	25		
Korea	0	0	19	0	0
Saudi Arabia	0	0	3	0	0
India	0	0	40	0	0
Vietnam	80	0	7	0	0
Spain	0	293	0	0	0

Product 4402: Wood charcoal

Importers	2019	2020	2021	2022	2023
World	2.055	759	4.852	25	103
United Arab Emirates	531	42	737	0	46
Portugal	81	0	466	0	17
Sweden	0	0	0	0	14
Greece	14	40	248	0	9
United Kingdom	0	8	174	0	9
Bulgaria	0	0	1	0	7
Argentina	0	0	136	0	0
Bahrain	0	0	17	0	0
Belgium	0	18	330	0	0
China	46	164	119	0	0
Croatia	0	0	29	0	0
Cyprus	4	0	2	0	0
France	0	0	4	0	0
Germany	0	0	58	0	0
Ghana	0	0	58	0	0
Israel	182	175	385	0	0
Italy	60	9	247	0	0
Japan	0	0	5	0	
Jordan	37	7	181	0	0
Korea	0	39	0	0	0
Kuwait	99	38	66	0	0
Lebanon	728	26	315	0	0
Malaysia	0	14	0	0	0
Netherlands	0	0	167	0	0

Product 4403: wood in the rough

⁶⁶ World Integrated Trade Solution (WITS), World Bank

⁶⁷ Wood and Wood-Products Movements from and into Nigeria: The Need for Sustainability of Resource Base and Trade, Forests and Forest Products Society, 2021

⁶⁸ In thousand Euro. Source Trademap, International Trade Center (ITC) based on statistics from Nigeria's National Bureau of Statistics

Importers	2019	2020	2021	2022	2023
World	65	11	2.769	0	0
China	0	0	79	0	0
Ghana	0	0	151	0	0
India	0	0	564	0	0
Singapore	0	0	686	0	0
Vietnam	65	0	1.288	0	0
United Arab Emirates	0	11	4	0	0

Product 4407: wood awn or chipped lengthwise

Importers	2019	2020	2021	2022	2023
World	202	17	416	0	0
Cambodia	0	0	27	0	0
China	74	14	25	0	0
Germany	0	0	1	0	0
Ghana	0	0	14	0	0
Lebanon	4	0	0	0	0
Malaysia	0	0	1	0	0
Pakistan	5	0	0	0	0
Portugal	13	0	0	0	0
India	0	0	29	0	0
Vietnam	0	0	319	0	0
Thailand	65	0	0	0	0
Türkye	41	3	0	0	0

Product 4409: Wood, incl. strips and friezes for parquet flooring

Importers	2019	2020	2021	2022	2023
World	218	43	1.286	0	0
China	8	0	406	0	0
Ghana	0	43	73	0	0
Italy	20	0	0	0	0
Senegal	0	0	62	0	0
India	8	0	0	0	0
Singapore	0	0	433	0	0
Vietnam	180	0	313	0	0

Product 4415: packing cases, boxes, crates, drums and similar packings of wood

Importers	2019	2020	2021	2022	2023
World	8	138	207	353	0
Equatorial Guinea	0	32	0	0	0
China	0	0	0	9	0
Ghana	8	105	207	345	0

Product 48: paper and paperboard

Importers	2019	2020	2021	2022	2023
World	3.187	2.512	4.599	5.917	6.153
Burkina Faso	0	7	1.633	2.159	1.810
Togo	12	8	0	23	1.508
Ivory Coast	210	236	839	829	959
Ghana	1.695	1.104	1.571	1.107	604
Liberia	0	0	287	274	264
Senegal	420	116	80	258	246
Mali	20	31	0	0	205
Germany	0	0	0	955	203
United Kingdom	81	0	0	0	128
Cameroon	632	534	78	130	94
Benin	59	116	26	53	80
Cyprus	0	0	54	57	39
South Africa	0	0	0	0	11
Austria	0	0	0	49	0
Croatia	48	0	0	0	0
France	0	0	7	0	0
Gabon	0	23	0	22	0
Guinea	0	0	11	0	0

Italy	0	103	0	0	0
Netherlands	0	103	0	0	0
Niger	0	49	0	0	0
Guinea-Bissau	0	9	0	0	0
Romani	0	0	12	0	0
India	0	76	0	0	0

3. Preparedness of the value chains concerned to comply with the EUDR

3.1. Contribution to deforestation

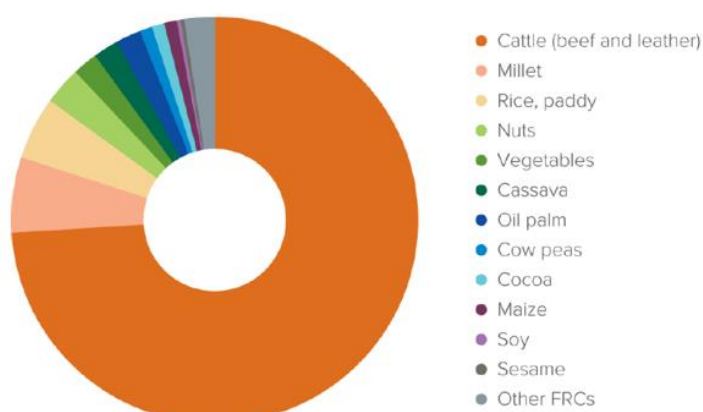
Nigeria's forest area has decreased by 9% since 2000, including a 12% decrease in forest cover in protected areas, despite legal protections, highlighting the challenge of preventing illegal deforestation.⁶⁹

Agricultural conversion is the main driver of forest loss in Nigeria.⁷⁰ It has been estimated that more than 80% of Nigeria population is engaged in one form of agricultural practices. Global Forest Watch estimates that shifting agriculture is responsible for around 93% of Nigeria's 2020 forest loss. An additional 2% of the forest loss was reportedly a result of commodity production/extraction, primarily through commercial agriculture. No less than 60% of cleared forests in tropical areas are used for agricultural settlement.

Nigeria's Forest Policy of 2006 acknowledges that agricultural expansion is the main threat to forests, and it states that "*as cultivated lands are depleted, farmers look to forested lands for fertile soils,*" preferring "*to encroach on forest reserves where soils are relatively more fertile,*" thus driving deforestation.

Beef, millet, rice, cassava, and vegetables, which are mostly consumed domestically, are the largest contributors to deforestation. Export-oriented cash crops, particularly **wood products, cocoa, cashews**, and sesame, are also associated with an elevated risk of illegal conversion. Increasing demand for products such as **palm oil**, palm kernels and **soy** is driving producers to clear forests at an unbridled pace. Farmers often clear land for livestock using slash-and-burn techniques.

Graphic. Nigeria's product-linked deforestation as a percentage of total land use^{71,72}



Nigeria's production of forest-risk commodities is likely to increase in the future, as the population is projected to grow from 206 million in 2020 to 400 million by 2050. Under these

⁶⁹ Illegal Deforestation for Forest-risk Commodities Dashboard: Nigeria, Forest Trends, 2022

⁷⁰ The Challenges of Deforestation and Management in Nigeria: Suggestions for Improvement, Ghana Journal of Geography Vol. 16, 2024

⁷¹ Forest Trends, 2022

⁷² FRC: Forest Risk Commodities

economic and demographic pressures, **the forest reserves are at high risk** of further encroachment by farmers, herders, loggers, and poachers.

Forest law enforcement lacks capacity and resources, and there remains a lack of effective coordination between control of the wildlife trade, illegal logging, and sustainable forest management, as well as coordination at the national level. The role of the federal government is to coordinate and monitor the forestry sector and establish and manage National Parks, while the state governments are empowered to create and manage forest reserves and enforce forest law.

In fact, policies governing forest conversion and agricultural production are **defined by Nigeria's 36 states** and are not always publicly available, making it difficult to determine which laws apply throughout the country. This may become a specific challenge for EU importers verification of production compliance with relevant legislation.

The Forest Policy sets the national framework for forest management, but **State forestry departments are independent bodies** and are not mandated to comply. The new National Forestry Act is still in draft, and while each state also has its own forest law, many have not been updated in several decades.

The **National Strategy to Combat Wildlife and Forest Crime** in Nigeria 2022-2026, launched in April 2022, does not mention illegal conversion of forest for agriculture, but focuses instead on high-value timber from natural forests, charcoal production, ivory, and pangolin scales.

Furthermore, **political instability** and continued use of forests by armed groups could also drive further deforestation.

Ultimately, **key indirect causes of deforestation** are linked to population growth and poverty. In this context, National climate change actions, natural resource policies, land tenure, international and multilateral commitments, and carbon credit frameworks have very little impacts regarding land-use change.⁷³ Lack of alternative livelihoods undermines people's resilience and further drives deforestation and forest degradation.

Cattle is a major contributor to deforestation in Nigeria, as the animals not only feed on tree seedlings but also on branches of mature trees. Between 2005 and 2018, cattle production was tied to over 500,000 ha of deforestation.⁷⁴ With demand for beef rising rapidly and desertification advancing in the north of the country, growing pressure on land is expected to further increase the risk of illegal conversion of forests to pasture.

Deforestation in the **cocoa value chain** has been going on since colonial times, and almost all of it took place **before the EUDR cut-off date** of December 31, 2020. Broadly speaking, therefore, a large percentage of the sector could comply with the EUDR's non-deforestation condition, if traceability systems can be put in place to provide proof of non-deforestation for the exercise of due diligence under the EUDR.

However, recent production declines (low productivity due to ageing trees, inadequate production management, climate change, etc.) suggest that farmers will need to **increase their harvested area even further to keep production at a constant** rate. Moreover, high (albeit volatile) international prices in recent years have encouraged the development of new production zones (such as the Cross River State strategy, discussed above).

⁷³ Drivers of Deforestation and Land-Use Change in Southwest Nigeria, Springer Nature Switzerland, Handbook of Climate Change Resilience, 2018

⁷⁴ Deforestation risk embodied in production and consumption of agricultural and forestry commodities 2005-2018, Environmental Research Letters, Volume 14, Number 5, 2019

As a result, **there is a high risk associated with additional illegal conversion of forestland or encroachment into protected areas for cocoa produced in Nigeria.** As previously mentioned, according to data provided by the Ministry of Environment during the field mission, about 40% of agricultural farms - and "a higher percentage of cocoa plots" – could be located in protected areas. For example, in Ogun state, the Omo Forest Reserve lost 7 % of its tree cover between 2001 and 2018, reportedly as a direct result of illegal conversion of forestland for cocoa farming. There are reportedly 300 farming communities illegally living in and around the Omo Forest Reserve.⁷⁵ As discussed above, the existence of an important share of cocoa plots within protected areas would be in line with the situation in other countries in the region.

Rubber does not appear to be a major contributor to deforestation, at least in recent decades. It has been argued above that the key role played by rubber trees in reforestation projects in Nigeria has made deforestation to increase the rubber production area unnecessary. While limited in value, we again mention the results of the preliminary assessment carried out by the company Rubber RENL: out of 560 farms tested, only 13 would be non-compliant with the EUDR deforestation condition.

Finally, the **timber sector** suffers from governance and resource management problems. The principle of sustained yield silviculture, whereby products removed from the forest are replaced by growth, has been abandoned in most forest reserves. Resource inventories are inadequate. The forestry sector is also affected by corruption, such as embezzlement and illegal activities. Primary forests are cleared extensively. The various State forestry departments have been unable to adequately protect the forest estate. Most forest reserves that were once managed for timber production have become deforested and fragmented. Many have been converted for other land uses.⁷⁶

3.2. Preparedness to implement traceability systems

Structural constraints on traceability from the production plot in Nigeria

The structural characteristics of the sectors analyzed make it **challenging to set up a traceability system from the production plot onwards**, as required by the EUDR regulation. In particular:

1. **High number of small producers, small plot size and physical dispersion**, especially in cocoa value chain (87,5% farms < 5 ha, average size 1,5-2,5 ha) and to some extent in rubber. The large number of small producers, the small average size of plots and their geographical dispersion, as well as the status of small and micro producers, present structural challenges for establishing effective product traceability from the production plot. In addition, there are very low production volumes for which traceability to individual batches could not be implemented at a reasonable cost. Particularly as some products (such as cocoa) must be delivered to the collection center within a short timeframe to avoid fermentation, and the transport of small production volumes (sometimes 2 kg per harvest day) means that products from several plots, physically close to each other, must be mixed.

⁷⁵"Cocoa and gunshots: The struggle to save a threatened forest in Nigeria." Mongabay. Accessed August 2024. <https://news.mongabay.com/2019/07/cocoa-and-gunshots-the-struggle-to-save-a-threatened-forest-in-nigeria/>

⁷⁶ Nigeria's forests are fast disappearing – urgent steps are needed to protect their benefits to the economy and environment, <https://theconversation.com/nigerias-forests-are-fast-disappearing-urgent-steps-are-needed-to-protect-their-benefits-to-the-economy-and-environment-223922>

2. **Pre-eminence of pastoral models in cattle value chain and low productivity per animal:** non-commercial, pastoral (99%) and largely transhumant models, involving in some cases unregulated land border crossings, pose significant challenges from the perspective of the traceability required in the EUDR for cattle. EU importers who place on the European market cattle products must geolocate all establishments associated with raising the cattle, encompassing the birthplace, farms where they were fed, grazing lands, and slaughterhouses. It is not therefore enough to provide the geolocation of the land where the calf was born. In addition, the very low productivity per animal makes the necessary investment for individual animal tagging difficult to recoup.
3. **Low level of associativity and weakness of cooperatives.** As noted above, only 20% of cocoa producers belong to associations. This situation not only hinders effective traceability, but also limits loyalty between producers and LBAs and the stability of supply chains. Furthermore, loyalty between producers and LBAs is undermined by the fact that buyers compete, taking advantage of opportunities when the producer is in urgent need of cash. The relationship between producer and trader or exporter is logically closer when there is in place some form of certification (such as Organic, Rainforest Alliance or Fair Trade).

Of course, producers certified for environmental sustainability and those integrated into exporters' direct supply chains (particularly those linked to international traders, which are more active in developing direct supply chains than national exporters) are better placed to adapt to the EUDR's traceability requirements. Even more so as some certifications are gradually aligning their specifications with the requirements of the Regulation.

Nevertheless, **it remains complex, under the best of conditions, to track individual harvests from plot to export shipment**. It must be borne in mind that thousands of farmers (with small, low-productivity farms) can contribute to the production of a single sea container of coffee.

Technological constraints of satellite imagery

Although no specific studies have been identified for Nigeria, several research studies have analyzed the **technical limitations of satellite technology for identifying deforestation processes** associated with agricultural production in other African countries.⁷⁷

A recent study⁷⁸ showed that the capabilities and limitations of satellite technologies for detecting land-use change, identifying production plots and mapping supply chains vary from product to product. While deforestation detection is subject only to the technical limitations of satellites (data availability, detection threshold, etc.), crop identification and product traceability can be complicated by other factors.

For maize, palm oil, rubber, soy and wood from managed forests, remote sensing technologies can, in principle, provide solid, up-to-date information. These products are often grown on fairly large plots, which makes it easier for the algorithms to identify areas. Soy and maize are generally grown on relatively flat land, which improves the quality of radar-based change detection monitoring. Oil palm and rubber have specific textures and plantations follow a geometric pattern. These factors enable them to be clearly differentiated from the surrounding forest.

⁷⁷ Par exemple, "Côte d'Ivoire: Risk of illegal cocoa supply in the Guémon region", IDEF, 2023

⁷⁸ Tracking down products linked to deforestation: the role of remote sensing technologies in implementing the EU legislation on Deforestation-free products, a Kayrros report prepared for, The Green/EFA at the European Parliament, 2022

The complexity of satellite image analysis increases for **livestock, cocoa, coffee and wood from natural forests**. Cocoa in Nigeria is often grown on small areas that are difficult to detect. What's more, in the agroforestry models that constitute the main form of cultivation in Nigeria, cocoa is grown under the canopy of taller trees that hide them from optical images.

As the report points out, while it is possible to map much of the production of these products, it should be noted that crop identification can be more complex, requiring data from public sources or companies in the supply chain.

Furthermore, as attested by private certifiers, the use of satellite imagery to assess deforestation in small agroforestry plots generates many "false positives", which require field verification, increasing costs and causing further delays.

Even the correct identification of forested areas remains problematic. As another study⁷⁹ published in 2023 concluded, 29% of tree cover in Africa is found outside areas previously classified as tree cover in state-of-the-art maps, such as in croplands and grassland.

To implement traceability systems based on deforestation assessment using satellite images, as provided for in the regulation, it would be necessary to have satellites capable of making this distinction, and to supplement image analysis with systematic checks in the field in order to arrive at a reliable assessment. Such checks would be very costly, given the size of the cultivated area, the average plot size, and the weakness of Nigeria's transport infrastructure. Setting up a system to enable such a form of periodic verification would be extremely complex and costly, so the only possible solution would be to rely on information provided by satellite imagery, accepting the limitations this may represent.



The challenges of satellite forest monitoring ^{80,81}

Resolution limits

The resolution of satellite imagery varies. While high-resolution imagery can provide detailed information, this data is not always available for all regions, or may be expensive to obtain. On the other hand, low-resolution imagery, while covering larger areas, can miss small-scale deforestation activities.

Accuracy limits

The accuracy of most satellite assessments of deforestation ranges from +-5% to +-20%. Nevertheless, companies should expect to discover a certain number of plots where deforestation exceeds margins. The only way to authorize shipment of these parcels is to obtain additional evidence, usually in the form of audits, certificates and other records showing that the holding was established before the EUDR deadline.

Cloud cover issues

Forest areas, particularly tropical rainforests, are often covered in clouds. This poses a problem for optical sensors, which cannot penetrate clouds, leading to gaps in monitoring.

Differentiating natural changes

⁷⁹ More than one quarter of Africa's tree cover is found outside areas previously classified as forest, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10154416/>

⁸⁰ <https://medium.com/meteory-blog/monitoring-forests-globally-how-satellite-data-is-used-to-detect-deforestation-e0db34abe453>

⁸¹ <https://www.sourcemap.com/blog/using-satellite-imagery-to-monitor-deforestation-in-supply-chains-look-back-2024-update>

Satellites can detect changes in forest cover, but it is sometimes difficult to distinguish natural changes (such as seasonal leaf fall) from human-induced changes (such as logging) in the absence of corroborated ground data.

Integration with ground data

For a comprehensive understanding, satellite data often need to be integrated with field observations. However, in remote areas, ground data collection can be difficult and costly, leaving potential gaps in the overall monitoring effort.

Access and cost

While many organizations and initiatives offer free access to satellite imagery and data, some high-quality datasets can be proprietary and expensive. This can limit their use by NGOs or developing countries with limited budgets.

The current state of traceability in the value chains concerned

The **Ministry of the Environment** has developed a Geographic Information System (GIS Lab) to identify land use at national level, including the differentiation of land used by different crops. Although this system facilitates the assessment of deforestation caused by each crop category, the resolution does not allow the evaluation of deforestation in small parcels of land (less than 4 hectares).

There are several public initiatives to develop **livestock traceability solutions** in Nigeria. The National Animal Identification and Traceability System (NAITS), mentioned earlier, was launched in 2022, and is still in its infancy. Other technologies are also being developed by the private sector. In any case, given the pre-eminence of transhumant, traditional cattle raising models, the traceability of cattle seems particularly complicated if there is not a clear market incentive, which is not foreseeable in the short or medium term.

Cocoa is a two-speed industry. On the one hand, there is the certified product (notably Rainforest Alliance, but there are also other relevant certifications such as Organic or Fairtrade), which involve traceability systems, plot geolocation data and compliance assessment systems for environmental sustainability.

Most of these certifications are driven by international traders, working with selected exporters. According to stakeholders interviewed during the field mission, these traders would represent around 60-70% of Nigeria's cocoa exports. Also using informal data, and just to establish an order of magnitude, about 40% of production could be certified.

The **remaining producers find themselves in a much more complex situation** when it comes to **complying with EUDR requirements.**

As mentioned earlier, the NCMC, led by the **Ministry of Agriculture**, has developed a framework for the regulation and monitoring of the activities of the cocoa sector to make the industry more transparent. It has also developed a strategic plan towards the establishment of a Nigerian Cocoa Board. This proposal is currently a Bill that, if approved, would mean the development of a semi-regulated sector, in which the public sector would regulate and support production, while commercialization would remain in the hands of the private sector.

The NCMC aims to produce a census of producers, geolocate plots and establish a centralized traceability system. This should facilitate the adaptation of the cocoa value chain to EUDR requirements. However, this project is still in the design phase, and at the time of the field mission appears to be underfunded.

At the value chain level, the President of the Cocoa Association of Nigeria estimated that 50% of the cocoa farms have already been geolocated. The Ministry of Agriculture could not confirm this information. Several stakeholders explained that the geolocation of plots is complicated not only by physical and technological factors, but also by the distrust of many producers, who often demand a payment to permit to take geolocation data from their plots.

As discussed above, exports of **rubber** from Nigeria to the EU are driven by a few large rubber processors that are owned of EU rubber groups. Geolocation of farms and strengthening of traceability systems are taking place across all the value chain led by these EU exporters.

Finally, the **timber** industry has no traceability system in place. As explained above, the requirement to obtain authorization before felling and the necessary identification of the logging area could facilitate traceability if necessary. However, the system is largely ineffective due to insufficient resources devoted to enforcement and verification.



Prerequisites for a centralized nationwide traceability system

As mentioned above, the NCMC aims to strengthen traceability at the cocoa value chain level. It is important to remember that the EUDR stipulates that the establishment of a traceability system will be the responsibility of the private operator that plans to import these products into the EU. Therefore, the reliability of the private sector in a centralized traceability system is key for it to be able to contribute effectively to solving the challenges that have been identified.

Below we discuss some of the minimum requirements that, from a general perspective, a centralized system should meet to facilitate compliance with the traceability requirements of the EUDR:

1. **Transparency and governance:** it is imperative that operators responsible for implementing traceability in their individual supply chains have confidence in the system and the quality of the data entered. Therefore, it would be desirable to create a steering committee or technical working group, including representatives of public and private sector stakeholders who must ensure compliance with the EUDR.
2. **Data validity and reliability:** external controls and auditing. To strengthen the system and facilitate its effective use by operators responsible for EUDR compliance, it is necessary to ensure the reliability of the data stored. This may require the implementation of internal and external control systems necessary to verify the quality of the data stored by the system.
3. **Preventing purely formal traceability:** inclusion of production and sales data. To avoid the risk of purely formal traceability, it would be necessary for the system to collect total production and sales data, per plot and per individual planter. Ideally, production per plot and per planter would be limited to an estimated maximum production level in relation to the registered area, in order to avoid possible fraud. In this way, the operator can cross-check the data on the quantities purchased from a grower with the total sales data realized by this grower and the estimated maximum production limits. In other words, only in this case it would be possible to verify that the products traced actually come from the declared place of production.
4. **Financial sustainability:** fees for access to information. To ensure the maintenance of the system and the regular updating of data, financial viability must be guaranteed. The payment of fees for access to information by private operators

responsible for EUDR compliance can be an efficient and fair way of generating the necessary resources.

3.3. Preparedness to comply with the legality condition

The challenges of agriculture in Nigeria in relation to legality

The EUDR regulation states that the importer, as part of his due diligence obligations, must check that the product to be imported has been produced in accordance with the legislation in force in the country of production, and therefore refers to the "relevant legislation" of each country to determine what is meant by legal production.

Article 2(40) of the EUDR states that *"relevant legislation of the country of production means the laws applicable in the country of production concerning the legal status of the area of production in terms of: (a) land use rights; (b) environmental protection; (c) forest-related rules, including forest management and biodiversity conservation, where directly related to wood harvesting; (d) third parties' rights; (e) labour rights; (f) human rights protected under international law; (g) the principle of free, prior and informed consent (FPIC), including as set out in the UN Declaration on the Rights of Indigenous Peoples; (h) tax, anti-corruption, trade and customs regulations."*

As stated in the answers published by DG ENV in the FAQs on the implementation of the EUDR: "Relevant documentation is required for the purposes of the risk assessment, Art. 9 (1) (h), 10 EUDR. Such documentation may, for example, consist of official documents from public authorities, contractual agreements, court decisions or impact assessments and audits carried out. In any case, the operator has to verify that these documents are verifiable and reliable, taking into account the risk of corruption in the country of production."

Therefore, the main challenges related to the legality of production in the value chains analyzed are:

1. **Land use rights:** most small-scale producers do not have land titles or other titles legitimizing land use.
2. **Informality of agricultural production:** the vast majority of agricultural production takes place in the informal sector, which by definition does not apply regulations in the relevant areas described in the regulation, such as workers' rights or tax obligations; nor has as a general rule supporting documents to verify compliance with relevant rules.

Weaknesses in the land ownership system

The Nigerian Land Use Act of 1978 aims to address the issue of plurality in the laws governing land use and ownership as well as the problem of land fragmentation resulting from inheritance and increasing population pressure. The **Land Use Act** follows a threefold strategy: the State holds proprietary rights in land, individuals are granted usufructuary rights, and the introduction of an administrative system for land allocations instead of relying on market forces.

In addition to statutory tenure, customary and Sharia laws in the north are prevalent in most parts of the country. Rural residents continue turning to their chiefs and emirs on land-

related matter⁸². Nigeria's customary law varies from community to community. It is a local and constantly evolving system of norms and principles rooted in precolonial times. Along with the customary authorities, clan, lineage, and family heads of landowning families have a say in land governance.

In fact, the objectives of the Land Use Act have never been fully implemented as it lacks specific standards for implementation and enforcement.⁸³ Formally replacing customary tenure, the Land Use Act nationalized all land and limited the size of landholdings. Although there is a general tendency towards individualization in the land tenure system in Nigeria today, customary law has prevailed even in urban areas. Individuals hold usufructuary rights and may use the land as long as it benefits the family or community.

Land conversion rights are determined by States Forest laws. Where conversion is done without authorization, it is illegal. However, the National Forest Policy (NFP, 2016) recognizes that *"forestland is widely used by local communities for cultivating crops, grazing and for fuelwood gathering, as well as building materials sourcing."* As reported above, according to data from the Ministry of Agriculture's GIS Lab, roughly 40% of agricultural farms might be located within protected areas. While this constitutes a challenge in terms of compliance with the legality condition, it is not specific nor exclusive to Nigeria, but similar to what has been assessed in other producing countries (Ivory Coast, or Peru, to mention just two).

Conversion of forest land to crops is done often by individuals who do not hold a certificate, and that the land becomes subject to competing claims and tenure conflict. Communal lands are held in trust for the people by the head of the community, and the same risks apply.

Furthermore, formalization of land tenure is a complex and expensive process. In addition, once the Certificate of occupancy (C of O) is issued, landholders are required to pay an annual rent or tax.⁸⁴ Worse still, according to Prindex⁸⁵ land tenure rights are perceived as insecure by almost a quarter of the population.

As a result, **only a handful of smallholders have secured their land tenure**. A study⁸⁶ published in 2018 determined that only 3 % of the land in Nigeria is formally registered. In fact, according to information provided by the Ministry of agriculture during the field mission, in Nigeria there is no legal requirements for smallholder farmers to demonstrate their rights to use the land to produce an agricultural crop (Ministry of Agriculture).



Secure land tenure rights are key to support zero-deforestation production

The 2018 study⁸⁷ cited above studied the effects of land tenure and property rights on farm household's willingness to accept incentives in measures to combat land degradation in Nigeria. According to the conclusions of this report, farmers who were dependent on leased and/or communal lands expressed implicit dislike for climate smart agriculture (CSA)-related investments. On the contrary, the majority of farmers with freehold titles, particularly those with registered titles, expressed positive

⁸² Land Acquisition and Use in Nigeria: Implications for Sustainable Food and Livelihood Security. In: Land Use: Assessing the Past, Envisioning the Future, 2019

⁸³ Nigeria - Context and Land Governance, Land portal, 2021

⁸⁴ Preferred by Nature, "Timber Legality Risk Assessment – Nigeria, 2021

⁸⁵ <https://www.prindex.net/data/nigeria/>. Consulted in August 2024.

⁸⁶ Effects of Land Tenure and Property Rights on Farm Households' Willingness to Accept Incentives to Invest in Measures to Combat Land Degradation in Nigeria, Agricultural and Resource Economics Review 47/2, August 2018

⁸⁷ Agricultural and Resource Economics Review, 2018

attitude towards incentives to embrace CSA and combat land degradation. While the results of this study are limited in scope, they underline the challenging context in which the EUDR is to be implemented.

It is important to note that land use in Nigeria presents **specific problems from a gender perspective**. Nigeria's Constitution provides equal land, divorce, and inheritance rights to men and women. However, these are largely undermined by customary law, Sharia law, and traditional gender norms⁸⁸. Despite special decrees providing for women's land and widow's rights, legislation only applies to registered marriages whereas most Nigerians are married based on common or religious law. Especially women in rural areas and in polygamous marriages remain disadvantaged and excluded.

Informality of agricultural production

By its very nature, informal activity is difficult to measure, particularly in rural areas, where statistics and data relating to work are often not collected. Nigeria's economy has very high levels of informality. It has been estimated that the informal sector contributes to over 58% of Nigeria's GDP.⁸⁹ In 2022, 93,9%⁹⁰ of all employment was considered as informal according to the International Labor Organisation (ILO) definition. The 2023 Nigeria Labour Force Statistics Report estimates that the rate of **informal employment among people living in rural areas is 97.3%**. Almost 90% of businesses are in the informal economy.

According to the Bank of Industry of Nigeria, the informal sector comprises any economic activity or source of income that is not fully regulated by the government and other public authorities. This includes enterprises that are not officially registered and do not maintain a complete set of accounts, and workers who hold jobs lacking basic social or legal protection and employment benefits.

The National Salaries, Incomes and Wages Commission (NSIWC) explains that informal businesses are also characterized by no formal organization structure, low and irregular earnings, business insecurity, lack of social welfare such as pension for both employer and employee and lack of record keeping.

A 2013 study found that that unemployment, tax burden, government regulation, and inflation are the most important drivers of informality in Nigeria.⁹¹ Although the causes of informality are diverse, according to the ILO, the informal sector is defined on the basis of one or more of the following three criteria: (1) small enterprise in terms of number of workers, according to national conditions or regulations; (2) enterprise not registered under national legislation; or (3) enterprise whose workers are not registered.

It is therefore important to note that the main characteristic of informal activities is not their economic marginality: they are integrated in various ways into the value chains concerned in this study and the wider economy. **What defines small units as informal is their legal and social marginality**. Consequently, and in relation to our analysis, what is important is that informal producers, without losing their informal status, participate regularly and constitute a key player in the value chains studied.

⁸⁸ The influence of religion and culture on women's rights to property in Nigeria, Cogent Arts & Humanities, 2020

⁸⁹ <https://www.worldeconomics.com/National-Statistics/Informal-Economy/Nigeria.aspx> Consulted in August 2024

⁹⁰ <https://ilostat.ilo.org/topics/informality/> Consulted in August 2024

⁹¹ Size and Causes of the Informal Sector of the Nigerian Economy: Evidence from Error Correction Mimic Model, Journal of Economics and Sustainable Development, Vol. 4, 2013

Verifying the legality of an informal sector is likely to be complex for the EU importer, given the **absence of documents needed to verify this legality** (land tenure, payment of taxes, compliance with environmental regulations, etc.).

Part 3.

Conclusions and recommendations

1. Conclusions

1.1 General

In a country where the population is growing rapidly, **only increased productivity can contribute to the conservation of the last remaining forest areas.**

However, the Nigerian agriculture sector is plagued with low productivity, inaccessible or expensive inputs, and increasing post-harvest loss due to poor logistics and insecurity across the country.

The **average size of agricultural businesses is small or very small.**⁹² They are almost excluded from access to credit, receiving only 0.45% of total loans.⁹³ The share of agricultural investment in total official financial sector credit to the private sector has not only been insignificant compared to other sectors, but also volatile and declining, falling from 0.28% in December 2009 to 0.14% in June 2020.

As a result, the capacity of most agro-industries to make investments and adopt production models requiring medium- to long-term investment is virtually non-existent. For most growers, the low level of investment has resulted in low input use (improved seeds and fertilizers), lack of water control, inadequate and poor-quality rural infrastructure, and the continued use of rudimentary equipment for production.

Only a few exporters with access to international markets and financing capacity are able to mobilize producers and structure specialized supply chains for the EU market, with the possibility of adapting to the new access conditions provided by the EUDR.

Nonetheless, agriculture is still today the main source of income for a considerable proportion of the population of Nigeria, employing around 45%⁹⁴ of the country's workforce, although this share has declined in recent years.

Actors in the target value chains have **limited knowledge of the scope of the EUDR.** Although they are all aware of the traceability requirement and the need to geolocate all farms, the legality of production condition is generally not known, nor is its operationalization well understood by a sector that is largely informal.

There is an **urgent need to provide details on the operationalization of the EUDR**, including: the publication of guidelines by the EC, the precise definition of the scope of the legality of production condition, the development of a due diligence checklist to facilitate its consistency with the controls to be carried out on entry to the EU market, etc.

It should also be pointed out that in the commodities trade, producers are generally price-takers faced with a small number of price-makers. The low associativity rate and the role of LBAs are specific factors that weaken further the bargaining power of Nigerian smallholders. As a result, there is a risk that part of the cost of implementing the EUDR will fall on producers, many of whom, in Nigeria's case, are highly vulnerable.

Similarly, the fact that the EUDR makes it the importer's responsibility to set up strict traceability systems may reduce the bargaining power of producers, cooperatives and

⁹² Tenacity of small farms and poverty levels: Evidence of relationship among farming households in Nigeria, Research on Crops, 2019

⁹³ AgriTech in Nigeria: Investment opportunities and challenges, GSM Association, 2020

⁹⁴ World Bank data, 2022.

exporters, who will inevitably depend on their integration into the traceability systems designed by each of them and under the conditions determined in each case.

The institutional ecosystem of the concerned value chains is very weak, and the capacity of existing organizations to contribute effectively to the implementation of the EUDR remains limited. There is therefore a risk that EU importers will focus on securing their direct supply chains and decide to exclude, at least in the short term and as part of risk mitigation measures, certain groups of producers, particularly the most economically and socially marginalized.

Doubts also remain as to the compliance of most producers with the legality of production requirement , given the weakness of the land tenure system and the scale of the informal sector in Nigeria’s agriculture.

1.2 At the value chain level

The conclusions regarding the potential impact of the regulation on each of the value chains analyzed are summarized below. In addition, there are common elements relating to the challenges of traceability and legality in Nigeria, which have been discussed previously and therefore will not be repeated here.

Cattle

We consider the EUDR impact will be low. First, national production of cattle does not meet the domestic demand, and this gap is expected to increase over the coming decades. Consequently, beef exports from Nigeria to the EU are not foreseeable in the short or medium term.

On the other hand, hides and skins of cattle are primarily consumed as a food delicacy (POMO), and Nigeria’s leather exports to the EU consist almost entirely of goats and sheep. While cattle is a major contributor to deforestation, implementing EUDR-compliant traceability systems would be challenging -and probably ineffective- in a sector where pastoral, transhumant models are prevalent.

Cocoa

We expect the impact to be high. Despite the efforts led by exporters and traders, the geolocation of small, scattered plots, often hidden by agroforestry cover, makes the implementation of the EUDR particularly complex. According to data provided by the Cocoa National Association, only 50% of plots are currently geolocated. Moreover, small production volumes at the farm level and the participation of several middlemen in the value chain make traceability challenging.

The NCMC project to set up a Cocoa board and regulate production should facilitate farmer registration and, ultimately, the implementation of traceability systems. However, this project, if approved by Parliament, will require time and resources to achieve effective results.

Furthermore, cocoa is one of the main drivers of deforestation. According to data from the Ministry of Environment's GIS Lab, more than 40% of cocoa plots would be located within classified forests and protected areas, in line with what has been estimated in other producing countries. This poses a problem in terms of production compliance with the land and environmental regulations, which the EU importer must verify according to the EUDR.

Finally, in recent years, many cocoa growers have adopted agroforestry systems, including the planting of native trees. As explained above, the use of satellite imagery to assess deforestation in agroforestry systems generates an undetermined but significant number of

false positives, requiring costly verification in the field. Abandoning agroforestry models could therefore be a mitigation measure, with a negative impact on the environment.

It therefore seems inevitable that relatively large groups of growers will be excluded from the EU market, at least in the short term. As these are generally growers with limited technical and economic capacity, and a high level of informality, the negative impact on them is likely to be particularly severe.

Rubber

We foresee that the impact derived from the implementation of the EUDR would be medium. Exports to the EU are driven by a few large EU multinationals and rubber processors, that are leading traceability and geolocation efforts across the value chain.

In addition, rubber trees are a key resource for reforestation programmes sponsored by the Nigerian government. Therefore, rubber production expansion does not cause deforestation, as a general rule.

This assessment does not exclude that some groups of producers may be negatively affected by the EUDR implementation. However, there are alternative export markets to which their production would be redirected.

Timber

We expect the impact to be low. On the one hand, there are currently no significant timber exports from Nigeria to the EU. The fact that a substantial share of timber exports is directed towards markets with low environmental sustainability requirements would discourage the adoption of specific measures adapted to the EU market.

The potential impact would result from EU importers requesting verification of the traceability of Nigerian timber re-exported to the EU market via other countries. It is not possible to analyze this hypothetical impact in the context of this study, as the volumes and form of such re-exports are unknown. In the case of “legal” timber exports, the requirement to obtain prior logging authorization and to identify the felling area could facilitate the traceability if necessary.

1.3 Evaluation summary

The following table summarizes the assessment carried out for the four value chains concerned in terms of their ability to comply with the requirements of the EUDR, as well as the potential impact based on the analysis presented on the previous pages.

We have also included a priority score for each value chain based on its suggested level of priority.

Below is a brief explanation of the various indicators that were evaluated, and which have already been presented in the methodology section of this study:

- **Readiness:** refers to the ability of operators in each supply chain to comply with the requirements of the regulation and directive. The assessment considers the technical and economic capacities and structural characteristics of each commodity chain, which may facilitate or hinder the adaptation of supply chain operators to the conditions of traceability from the production plot and legality of production laid down in the EUDR.
- **Potential impact:** refers to the potential impact that the implementation of the EUDR may have on each value chain, considering their state of preparedness and their

exposure to the EU market, whether direct or indirect. In theory, we could assume that there will be a positive impact in terms of reduced deforestation at the level of each value chain. However, this indicator focuses on the potential negative effects on each commodity chain (loss of income for growers, due to their potential exclusion from European market supply chains in particular).

- Estimated/suggested level of priority: refers to the recommendation to strengthen operators in the sector in order to facilitate their compliance with both regulations.

Table: Evaluation summary

Value chain	Preparedness	Potential impact	Priority (support)
Cattle	Low	Low	Low
Cocoa	Medium	High	High
Rubber	Medium	Medium	Medium
Timber	Low	Low	Low

2. Recommendations

This section presents a set of recommendations aimed at supporting the adaptation of the Nigerian concerned value chains to the EUDR. The focus of most of these recommendations is on the **cocoa value chain**, given that it would be the most negatively affected value chain.

1.1. Institutional framework to support the private sector's adaptation to the EUDR

The EUDR establishes obligations and a due diligence process that are exclusively the responsibility of the private sector. Despite this, a public-private collaboration in producing countries scheme could facilitate the design of cross-functional strategies and ensure synergies between the various players to aid the value chains concerned adapt to the new obligations.

1. Formalization of the EUDR Task Group and provide support to the design of an inclusive strategy

A **EUDR Task Group**, led by the Ministry of Agriculture, has been established to design a national strategy to facilitate compliance with the EUDR by all affected sectors. The role of this coordination scheme is fundamental to promote an inclusive strategy that prioritizes those producers with the greatest difficulties in complying with the Regulation.

In addition, it can facilitate the coordination of resources and tools, as well as discussions with the EU and other international donors that can collaborate in the adaptation of the Nigerian private sector to the EUDR.

It would therefore be advisable **to support the formalization of this Task Group** and provide it with a technical secretariat to facilitate the coordination of all relevant actors, as well as the follow-up of agreed commitments and the monitoring of approved activities.

2. Prioritize the most affected value chains

While inclusive, it is equally important that an EUDR adaptation strategy prioritizes the most affected value chains. In a context of limited resources and time, there is a risk that a general approach results in ineffective support measures.

This study provides a basis to identify some of the most affected value chains. However, it is important to note that some relevant value chains have been left out of the scope of this analysis: in particular, palm oil and soy. Their preparedness to comply with the EUDR and the potential impact resulting from its implementation should be also assessed before determining the EUDR-adaptation priorities.

Attention should be paid to the design of support measures based on a clear prioritization of value chains, aiming to achieve specific, concrete outcomes that are directly relevant to the implementation of the EUDR.

3. Provide support to the National Cocoa Management Committee (NCMC)

The NCMC has launched an ambitious process to revamp the Nigerian cocoa value chain, by developing a Cocoa Board and a semi-regulated sector that focuses on production oversight, leaving the cocoa trade in the hands of private sector players.

The NCMC is coordinated by the Ministry of Agriculture, includes several ministries and the largest national associations, and aims to engage directly also large exporters and traders. Indeed, the role and collaboration of these actors will be key to facilitate synergies with private sector initiatives, as well as to ensure that the supported schemes are aligned with EUDR-compliance strategies in place.

It would be important to **provide technical support to the NCMC**. First. A technical secretariat is necessary to convene sessions, follow-up on agreements and support the design of a monitoring system. Secondly, it is important to envision the need to produce technical inputs that feed into the strategy to set up a Cocoa Board and develop the tools and the regulatory framework of this new semi-regulated sector.

4. Collaborate in the drafting of the cocoa law and/or its regulatory development.

The Cocoa bill is currently **before Parliament**, awaiting a vote. It may be necessary to reformulate certain parts of this bill, or, in any case, to draft regulations enabling it to be implemented in practice.

Early technical support may facilitate the integration of international best practices and lessons learned from other regulated or semi-regulated frameworks (such as Ghana and Ivory Coast). It will also be of the essence to identify the necessary implementing measures, as well as to design a short and medium-term action plan that facilitates the mobilization of the indispensable resources.

5. Support the implementation of a semi-regulated model in the cocoa value chain.

Once the Cocoa Law is passed, it will be necessary to implement activities and design tools to make the new semi-regulated system effective. Some early priorities of the Cocoa board would be related to the **census of producers and registration of farms**. This effort could be aligned with **the geolocation of plots**, to ensure that all producers can be identified by importers, and that all cocoa plots can be assessed in terms of deforestation.

1.2. Concerning the implementation of the EUDR

The aim of the following recommendations is twofold:

- a) on the one hand, to facilitate compliance with the EUDR;
- b) on the other, to promote the technical and financial sustainability of the most forest-friendly production models.

In accordance with the EUDR, the EU importers will be responsible for implementing the traceability system, assessing the risks and determining that the two general conditions (1) of non-deforestation and (2) legal production on the plot are indeed met across their supply chains.

Consequently, the **recommendations** made here are not intended to replace the importer's obligations, but rather **to generate information and data to facilitate the importer's realization of these tasks**. This information and data can also underpin an autonomous strategy on the part of the Nigerian private sector and authorities, not only in relation to the EUDR, but also as a commercial positioning strategy on the EU and international markets.

For the sake of clarity, they have been grouped into three categories, with different but complementary specific objectives:

- Drawing up of a **roadmap for the cocoa value chain**
- **Facilitate verification of conformity by EU importers**
- **Support the productivity** of the value chains concerned

Concerning the development of a roadmap for the cocoa value chain

A series of short- and medium-term recommendations are presented below to help the private sector adapt to the requirements of the EUDR. The implementation of both regulations would be facilitated by greater integration of the cocoa value chain, as well as by greater formalization of producers.

It is important to draw up a **short- and medium-term roadmap** for the cocoa value chain. This roadmap must include public and private sector relevant stakeholders, as well as directly engage governments at the federal and states levels. It must determine the roles and specific responsibilities of each player, and establish the resources required to achieve the stated objectives.

The development of a roadmap addressing the specific challenges that have been identified should therefore be a prerequisite for the implementation of any support measure. The NCMC initiative is an opportunity to develop a strategy shared by the various players in the cocoa value chain, which could be strengthened through specific support measures.

We present a draft roadmap for the cocoa value chain in Annex 1 of this study.

Facilitate the verification of conformity by the European importer

1. Provide an updated forest baseline

The Ministry of Environment's GIS Lab has mapped all agricultural land of Nigeria. It enables the identification of farms within classified forests or protected areas. However, the map of forests and protected areas has not been updated for several decades. It would be very useful for the assessment of legality of land use to carry out a realistic, albeit cautious, exercise of **updating the land use baseline in Nigeria**. Based on this updated map, an analysis of the legal status of agricultural land more in line with the reality of the country could be carried out.

2. Facilitate the verification of production legality condition by the EU importer

Given the challenges involved in verifying the legality of production as required by the EUDR, it would be important to analyze the role of **the Cocoa Board**, in order to issue a **kind of official declaration of production legality (certificate)**, which could simplify the task of European importers.

Involving ministries and relevant agencies could also help identify the national regulations applicable in each case and facilitate the issue of official certificates where possible.

3. Promote partnerships between Nigerian exporters and European exporters and importers.

According to the regulation, **EU importers will be responsible for implementing the new requirements of the EUDR**. Consequently, their vision, experience and requirements must be integrated into the identification of obstacles and needs, and into the definition of action plans. In addition, the role of these operators is essential in promoting compliance with the new requirements throughout the value chain, as well as by other operators.

Given their access to resources (economic and technological) and the need to integrate their initiatives into a global sourcing strategy, they have the capacity to drive the sector forward, developing solutions and generating momentum that directly or indirectly benefits the most vulnerable producer groups.

In Nigeria, there are several EU and international traders who have actively invested in facilitating their suppliers' compliance with the EUDR and other sustainability requirements. Their experience needs to be analyzed, and their role strengthened in order to speed up compliance for as many producers as possible.

In addition, it is essential to **attract European importers to collaboration schemes that ensure that solutions devised at national level are acceptable to them and consistent with the verification systems they are putting in place.**

4. Enhance awareness of new requirements

Awareness of the scope and specific requirements of the regulation is very limited. Information for the private sector as well as the authorities concerned should be disseminated as soon as possible, and an update will be necessary when the final versions of the EUDR guidelines are approved.

It would also be advisable to develop **educational documents**, with a very practical visual pedagogical approach, aimed at facilitating understanding of the new requirements by all players in the value chains. These documents should be validated with professional organizations, who will be in a position to provide guidance.

Promote EU lead companies' investment to strengthen value chains

International traders, including EU importers, have led the development of value chains in the value chains concerned (in particular, cocoa and rubber) in many countries. The inclusion of producers in their direct supply chains generally enhances their access to inputs, technologies and financing, and indirectly supports their formalization. All these aspects are relevant not only to move towards EUDR compliance, but more broadly to facilitate a much-needed modernization process.

The EUDR makes EU importers responsible for ensuring compliance across value chains. It seems therefore only natural that their investment should result in the strengthening of their supply chains. While larger traders and buyers are already established in Nigeria, and across the region, there is an opportunity to support investment by medium sized EU companies, aiming to not only facilitate EUDR compliance, but also to strengthen supply chains.

Supporting pilot projects or EU medium sized importers and buyers to work with specific groups of producers in target areas might result in good practices that could be replicated across the country and in different value chains.

Support the productivity of the value chains concerned

The aim is to address the structural reinforcement of the value chains, by working at the level of the actors who make up the various links, to generate production capacities and models that facilitate their adaptation, in the medium and long term, to the EUDR and aim at the adoption of sustainable production practices.

5. Promote associativity, including cooperatives and consortia

Cooperatives and associations are key players in facilitating traceability and improving access to financing for the most vulnerable producers. In addition, the legal status of cooperatives can make it easier for importers to verify the legality of production. The introduction of traceability and forest monitoring systems could be a condition of support for cooperatives.

It would be advisable to strengthen existing cooperatives, focusing on production and collection tasks. It is also suggested to strengthen other, more flexible forms of association - such as production and marketing consortia, or production subcontracting - which are common in other countries and have proved useful in strengthening and modernizing small producers.

6. Support the implementation of sustainable productivity improvement practices that include deforestation prevention objectives.

To make the necessary transition to more sustainable modes of production, it is essential to **increase smallholder productivity while strengthening forest protection**. To enhance the effectiveness of efforts along the supply chain, smallholders need technical assistance to improve their production practices, and support to form associations or cooperatives.

Agroforestry systems combine the production of forest species and agricultural crops on the same plot, resulting in diversified and sustainable production, increased profitability, improved soil fertility, water and air quality, and reduced emissions.

7. Improve small producers' access to financing.

To bring about the necessary changes in production models, it is necessary to **improve access to finance for small-scale producers**. This can be done by reinforcing the economic value of the forest, making its conservation not only an environmental requirement but also a specific source of financing.

Facilitating access to carbon markets has improved access to financing for small-scale producers in other countries. Similarly, there are international experiences in the development of forest credit systems, where forest conservation is used as collateral to access financing on advantageous terms.

Last but not least, financing for small-scale producers in priority value chains can be enhanced through impact investment formulas, whose profitability indicators (notably, social and environmental sustainability) can be easily aligned with EUDR objectives.

8. Promote the formal registration of land titles in the relevant sectors.

Land tenure is an important issue for smallholders, families in rural communities and investors in the value chains concerned. The existence and enforcement of land tenure regulations reassure smallholders, their families and stakeholders who adopt sustainable practices, without fear of losing their livelihoods and investments.

In addition, farm registration implies the legal determination of land use, which is essential for the verification of production legality required by the EUDR.

Efforts should be made to **guarantee women's access to landownership rights**, as failure to respect these rights represents a risk from the point of view of the condition of legality foreseen in the EUDR.

Annexes

Annex 1. Draft road map to facilitate the adaptation of the cocoa value chain to the EUDR

1.	Rationale	68
1.1.	<i>Implementation of the EUDR</i>	68
1.2.	<i>Process of adaptation of target value chains to the EUDR...</i>	68
1.3.	<i>The role of the State</i>	68
1.4.	<i>The role of civil society</i>	69
2.	Strategy	69
2.1.	<i>Objectives</i>	69
2.2.	<i>Approach</i>	69
2.3.	<i>Risk analysis</i>	70
3.	Roadmap	71
	<i>Operational structure</i>	71
	<i>Short-term activities</i>	71

1. Rationale

1.1. Implementation of the EUDR

The objective of this Roadmap is to support the adaptation of the Nigerian cocoa value chain to the EUDR.

EU importers are responsible for complying with the obligations set out in the EUDR. In the absence of a standardised model in the EUDR itself, each importer can establish its own system for verifying EUDR compliance throughout its supply chain. This process presents two risks for Nigerian producers and exporters:

- Uncertainty: as they must wait for each EU importer to communicate their specific requirements and implement their due diligence process.
- Inefficiency: since the initiatives producers and exporters take may not be aligned with the requirements established by each importer.

To reduce these risks, it is important for Nigerian producers and exporters to have an **action plan** in place that allows them to **gradually adapt to the general requirements of the EUDR**. This action plan should enable them to respond to the demands of EU importers, and also to develop an autonomous strategy to position themselves in the EU market in the medium term.

1.2. Process of adaptation of target value chains to the EUDR

EU and international traders in Nigeria have begun to strengthen traceability systems and support the geolocation of producers' farms within their direct supply chains. To do this, they work with exporters, who in turn engage local buying agents, cooperatives and producers. Informal estimates show that these traders account for 60-70% of total cocoa exports from Nigeria, and that they expect most of their supply chains to be geolocated and traceable within the EUDR transitory period.

Outside these supply chains, efforts are being directed to geolocate as many cocoa farms as possible before the end of the transitory period. According to unofficial estimates of the private sector, around 50% of all cocoa farms would be already geolocated as of July 2024.

This does not mean, of course, that all geolocated farms and registered producers will be compliant with the EUDR. While each individual farm must be evaluated in terms of deforestation, data provided by the Ministry of Environment show that around 40% of farms would be located within protected areas.

Furthermore, some doubts remain regarding the operationalization of some of the new obligations established in the EUDR, and in particular the condition of legality. The EC's Directorate-General for the Environment plans to publish EUDR operational guides in the coming months, which would help to clarify these doubts and facilitate the adaptation of the private sector.

1.3. The role of the State

The Ministry of Agriculture set up in 2022 the National Cocoa Management Committee (NCMC). The NCMC is in fact a public-private dialogue framework, that brings together several federal ministries and the main cocoa associations at the national level.

The NCMC has drafted a new cocoa bill, currently in parliament, that would establish a semi-regulated cocoa sector. While the new regulations would focus on strengthening production, cocoa trade would be left in the hands of the private sector.

While the NCMC has a broader scope, it now aims to develop an ad hoc strategy to support EUDR adaptation across the cocoa value chain. In fact, some of the key priorities for strengthening production (producers census, farms registration, productivity increase) could contribute to facilitating compliance with the EUDR.

1.4. The role of civil society

The EUDR recognises a specific role to civil society, mainly in terms of risk assessment. Social conflict in a value chain can be perceived by European importers as a risk factor. Complaints relating to the occupation of protected areas, deforestation, or in terms of labour rights or relations with communities, should therefore be addressed directly within the framework of a strategy to facilitate compliance with the EUDR.

To this end, **civil society should be incorporated as an actor part of this strategy**, forming part of the risk assessment and seeking its alignment around a roadmap of shared, credible and achievable objectives within the framework of the EUDR scope.

However, to achieve this collaboration, it will be necessary to make a specific effort to overcome the traditional mistrust between the private sector and civil society, and between the latter and the State.

2. Strategy

Based on the above analysis, **the proposed adaptation strategy should be based on the following elements.**

2.1. Objectives

General objective: to facilitate the adaptation of cocoa value chain to the obligations set out in the EUDR.

The objective, therefore, is not to replace the due diligence obligation on the part of the EU importer, clearly established in the EUDR, but to **facilitate its compliance, generating good practices, tools and appropriate processes at the national level.**

Specific objectives:

1. **Facilitate geolocation and deforestation assessment of** plots whose products are exported to the EU
2. **Facilitate verification of the legality of production** by EU importers

2.2. Approach

The NCMC has the capacity to lead a cross-cutting, national strategy, that facilitates the collaboration of all actors around shared objectives. This strategy would be characterized as follows:

- **Market-oriented:** the aim is to respond to a change in the conditions of access to the EU market. Therefore, the envisaged support is market-oriented, working with producers, exporters and importers with the aim of ensuring the continuity of trade flows to the EU. The objective is not to promote structural changes in current production

models, which could be carried out within the framework of another, differentiated strategy and in the medium and long term.

- **Prioritized:** in consistency with the previous element, priority should be given to the actors that currently export to the EU, to ensure that their exports are not affected in the short term. From this same perspective, short-term objectives should be prioritized, identifying other medium- and long-term objectives that are achievable through additional resources.
- **Efficient:** the strategy seeks to mobilize existing or planned tools and resources, not to develop new ones that would require additional resources and long deadlines, beyond the dates of operationalization of the EUDR. Therefore, the design of costly or long-term solutions should be avoided.
- **Participatory:** the strategy must integrate all relevant actors, and specifically seeks to mobilise available resources. The State would have the functions of general coordination, follow-up and monitoring, but the implementation of each activity will be the responsibility of the actors who are determined according to their capacities.
- **Credible:** the challenge is to design a series of activities that are articulated with each other, clear, with realistic and relevant objectives for all the actors involved.
- **Inclusive:** it is based on the recognition that there are great asymmetries between the actors that make up the cocoa value chain. In this context, there are actors that have more capacities than others to comply with the EUDR. The aim would be to give priority to the most vulnerable to facilitate their adaptation to the obligations of the EUDR.
- **Regularly updated:** finally, the strategy must be reviewed and updated periodically, depending on the progress and challenges identified. Specifically, it should provide for the revision of the planned activities based on the operational guides and other information that the EU Directorate-General for the Environment plans to publish gradually to guide the implementation of the EUDR.

2.3. Risk analysis

The main risks are:

1. Delays in the implementation of the coordination mechanism.
2. Competition between the different actors, prioritization of non-consensual agendas.
3. Weakness in communication, isolation of institutions and definition of individual agendas.
4. Not prioritizing short-term goals.
5. Seeking general solutions, without prioritising the actors that currently export to the EU.

This proposed Roadmap seeks to ensure the effectiveness and efficiency of the intervention, mitigating the risks described through a participatory operational structure and the prioritization of activities and beneficiaries in the short term.

3. Roadmap

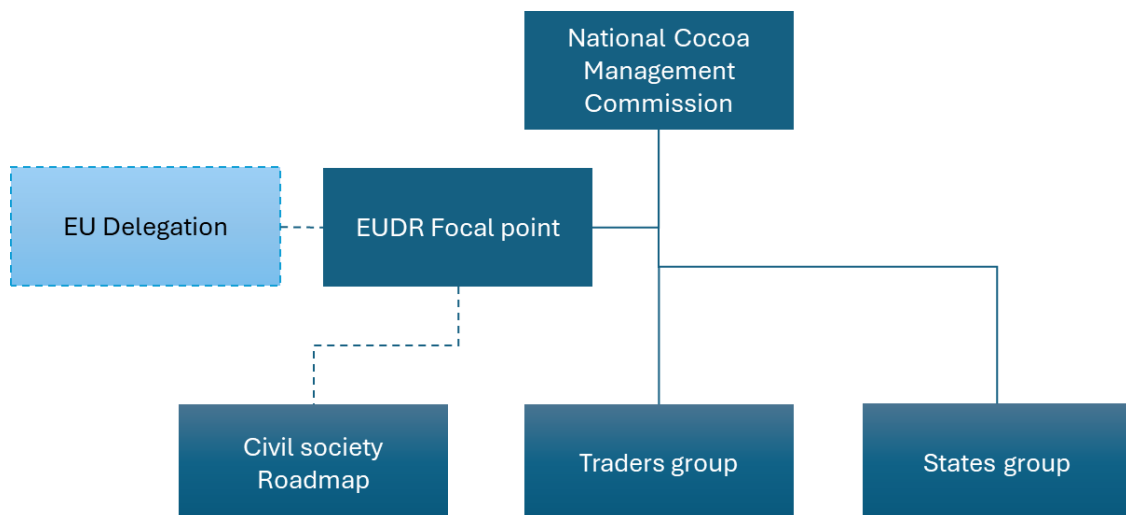
Operational structure

The implementation of the Roadmap would be the **responsibility of the NCMC**, in its current composition.

It is suggested to open **three specific spaces of discussion** to facilitate dialogue and coordination with:

- **Nigerian states:** the role of States is fundamental to support the Roadmap implementation as well as to align cocoa development strategies and the corresponding regulatory frameworks.
- **International traders:** who are leading efforts to ensure EUDR compliance and who will be primarily responsible for ensuring EUDR compliance.
- **Civil society:** ideally, a specific Roadmap for civil society could be developed, aligned with the scope of the EUDR and the adaptation objectives of the private sector.

It is also recommended that an EUDR Focal point be established. This Focal point would provide technical support for the implementation of the Roadmap, ensuring the convening of meetings, the follow-up of the agreements reached, and the monitoring of the activities implemented. This EUDR focal point would also act as liaison between the NCMC and the EU Delegation, to facilitate synergies of planned activities with EU support measures. The EUDR Focal point could also coordinate and follow up on the Civil Society Roadmap for the EUDR.



Short-term activities

In line with the specific objectives of this strategy, the Roadmap is articulated around 5 fundamental axes:

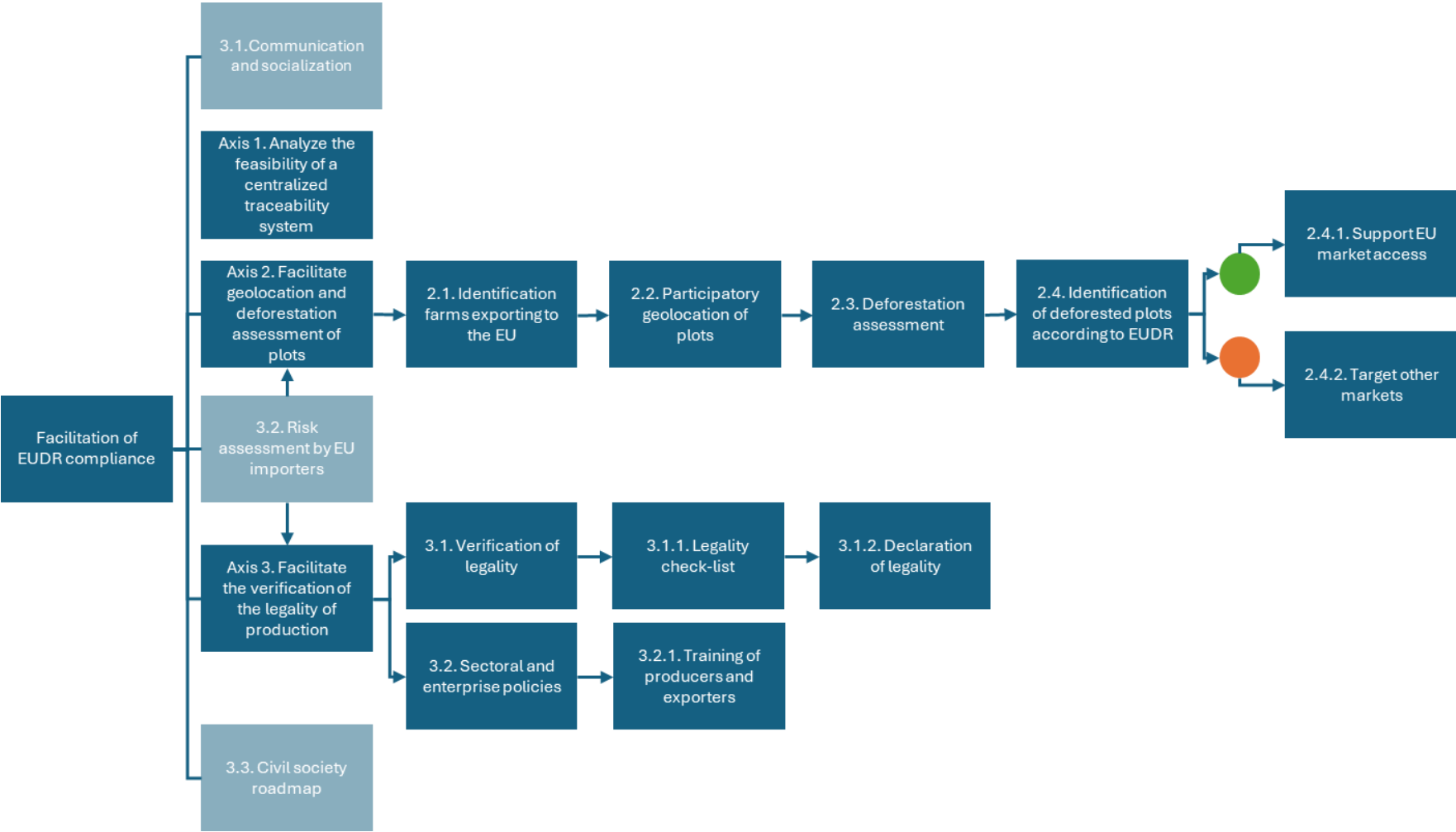
1. Analyze the **feasibility of a centralized traceability system**.
2. **Facilitate the geolocation and deforestation assessment of plots**.
3. **Facilitate the verification of the legality of production**.
4. **Cross-cutting activities**, aimed at strengthening the effectiveness of the Roadmap.

5. Other medium-term activities.

The graph on the next page presents a map of the proposed actions, which are described below. The operational details, indicators and budgets of these should be established within the framework of the NCMC.

The graph below outlines 5 strategic axes. Axis 1 is an exploratory proposal considering the NCMC intention to set up a semi-regulated cocoa value chain in Nigeria. Axes 2 and 3 are the key elements to facilitate the adaptation of Nigeria's private sector to the EUDR. Additional activities of a cross-cutting nature have been included in Axis 5, which are not directly related to the fulfilment of the specific obligations set out in the EUDR, but which are of great importance to ensure the effectiveness of the proposed strategy. Axis 5 contains several medium- and long-term activities aimed at strengthening value chains, beyond the specific scope of the EUDR.

Map of short-term activities



Axis 1. Analyze the feasibility of a centralized traceability system

The establishment of a semi-regulated sector creates new opportunities, but also risks. Other countries in the region with more or less regulated systems (Ivory Coast, Ghana) have launched initiatives to strengthen the cocoa value chains by developing centralized traceability systems. In parallel with the design of the new regulatory framework, there would be an opportunity to evaluate these systems, draw lessons learned and analyze the feasibility to set up such a system in Nigeria.

It is understood that this system would not mean that Nigeria cocoa production will be brought into compliance with the EUDR, but it is an important basis so as not to exclude the most vulnerable groups from export supply chains to the EU.

Axis 2. Facilitate geolocation and deforestation assessment of plots

The EU importer will be responsible for establishing a traceability system from the production plot. The EUDR generally requires that all production plots of imported products be geolocated. From January 2025, only products that come from plots not deforested after the planned cut-off date (30 December 2020) will be able to be marketed in the EU.

The importer does not, in many cases, have the capacity to directly carry out the geolocation of the plots. The EU's Directorate-General for the Environment has clarified **that the producer himself can geolocate his plot**, but the importer will be responsible for the accuracy of the data. In addition to the technical difficulties in carrying out an accurate measurement without adequate training, there are specific risks in the case of small plots, agroforestry models and plots in the vicinity of forest areas. In all these cases, small deviations in the geolocated data can cause overlaps between plots, or between plots with forest areas. Likewise, the importer is responsible for identifying and excluding from its supply chain those plots that have been deforested after December 2020.

However, if Nigerian producers can autonomously assess deforested plots, they would be able to: 1) strengthen their internal traceability systems, directing the production of EUDR-compliant plots to the EU market, and the non-compliant ones to other markets; and 2) develop an assessment system that allows them to identify deforestation risks over time, in order to avoid non-compliance and strengthen their positioning vis-à-vis the European importer.

In this context, **the following activities are proposed:**

2.1. Identify farms exporting to the EU: according to the proposed approach, plots of land that are currently exporting to the EU should be prioritised in the short term. This seeks to ensure the continuous access of exporters to this market, concentrating scarce resources on them. In a second phase, geolocation could be extended to all farms. It is assumed that cooperatives and exporters can identify the producers and/or plots of land whose products are currently exported to the EU.

2.2. Participatory geolocation of plots: the objective is to ensure that the geolocated data is as accurate as possible, to avoid overlaps between plots and between cocoa farms and forest areas. The proposed "participatory" methodology requires the pooling of all existing resources, whether public or private, at the federal or state levels. Technicians could train producers and cooperatives to carry out the geolocation of farms. The contribution of Academia (for instance, students field missions, or design of methodologies) should also be considered.

2.3. Deforestation assessment: once the plots have been geolocated, it is technically possible to carry out an assessment of which ones have been deforested after the EUDR cut-off date (30th December 2020). There are different tools to carry out this evaluation, both public and private, free of charge or by subscription. It is also important to note that it is not appropriate to recommend the use of a specific tool to exporters, as this could lead to responsibilities in relation to the quality of the assessment, in the event of complaints by the European importer. NGOs specialized in forest protection could provide tools or train technicians from cooperatives or exporters. The Ministry of Environment's GIS Lab also could contribute in terms of training and deforestation assessment.

2.4. Identification of deforested plots according to EUDR: as a result of the previous activities, it should be possible to identify plots that have been deforested after the cut-off date foreseen in the EUDR. The objective, logically, is not only to identify them, but to use this identification to 1) facilitate the segregation of production from its origin by cooperatives and exporters, leaving out of the EU supply chains those farms that do not comply with the EUDR; and 2) promote a differentiated marketing strategy for each type of plot.

2.4.1. Strengthening the trade orientation to the EU: those plots that have not been deforested after the cut-off date established in the EUDR can export their products to the EU. Those that already export can strengthen their marketing strategy in the European market, making it pivot around their compliance with the EUDR. Others that do not currently export to the EU may consider reorienting their production towards this market, taking advantage of existing opportunities in terms of higher prices and greater market differentiation. They could then consolidate geolocation data and deforestation assessment results into marketing materials to deliver to their customers.

2.4.2. Orientation to other markets: farms that do not comply with the EUDR must direct their production towards other markets. This is intended to ensure that non-compliance with the EUDR does not become a comparative disadvantage for producers. It is important that this reorientation towards other markets is carried out in advance and proactively, to avoid potential drops in exports as a result of rejections by EU importers.

Axis 3. Facilitate the verification of the legality of production

The EU importer is responsible for verifying that products imported into the EU comply with the relevant laws of Nigeria. It must also assess and mitigate the risks of non-compliance. The EUDR presents a list of topics that in the field of legality must be evaluated and verified by the importer⁹⁵.

In relation to the verification of legality, **there are two main difficulties** : 1) on the one hand, the importer does not have a catalog of the Nigerian laws and regulations that producers must comply with in each of those areas; 2) on the other hand, taking into account that the rate of informal employment among people living in rural areas is 97.3%, most producers lack supporting documents that the importer can assess to evaluate compliance with the relevant laws.

⁹⁵ Article 2(40) of the EUDR states that the "relevant legislation of the country of production means the laws applicable in the country of production concerning the legal status of the area of production in terms of: (a) land use rights; (b) environmental protection; (c) forest-related rules, including forest management and biodiversity conservation, where directly related to wood harvesting; (d) third parties' rights; (e) labour rights; (f) human rights protected under international law; (g) the principle of free, prior and informed consent (FPIC), including as set out in the UN Declaration on the Rights of Indigenous Peoples; (h) tax, anti-corruption, trade and customs regulations."

Ultimately, it is the State of Nigeria that defines legality, and therefore its leadership in this Axis 3 is fundamental. At the same time, there are areas related to international regulations to which Nigeria is a party (human rights, indigenous communities, etc.) in which there is not always adequate regulatory development, or on which there have been international complaints of non-compliance by the Nigerian State. And others, non-normative, but also relevant (business policies on gender, child labour, etc.), whose compliance corresponds essentially to private initiative.

Therefore, the main objectives of Axis 3 are as follows:

1. **Determine the Nigerian laws applicable to cocoa production**
2. **Facilitate proof of compliance** by producers in the informal sector
3. Provide producers with appropriate **sustainability policies and tools that can be validated by EU importers**

To achieve these objectives, the following activities are proposed:

3.1. Legality verification: legality verification is relevant to the EU importer (to verify that the products imported into the EU are legal, in accordance with the laws of Nigeria) and producers (the Nigerian producer and exporter must have agile and simple tools that allow them to demonstrate to the EU importer that they comply with the rules relevant). This activity, therefore, seeks to offer legal certainty and security to private actors, through the precise identification of the current regulatory environment and the determination of the documentation proving compliance with the law. To this end, the following sub-activities are proposed:

3.1.1. Legality checklist: the State must identify and catalog the relevant regulations and standards for cocoa production and trade. This catalog must be aligned with the areas of legality that are determined in the EUDR. This catalogue must also be publicised and made available, both nationally, to facilitate its knowledge by Nigerian producers and exporters, and internationally, so that EU importers can adequately adjust the requirements to be verified.

3.1.2. Legality “certification”: the possibility for the State issuing a “certification” of legality should be analyzed. Producers and exporters could attach this “certification” to their commercial documentation for the purpose of verifying compliance with the legality condition. This document should be issued in an agile manner, and the process for obtaining it online should be automated once the applicant submits the supporting documents that are established. This “certification” would be particularly relevant for informal producers who do not have alternative means of proof.

3.2. Sustainability policies: as explained, there are regulatory areas that may require the development of specific business strategies. Thus, for example, in matters of human rights, freedom of association, gender equality, etc. EU importers often ask producers and exporters to verify the existence of such strategies and policies, which often are lacking in the case of stallholders and cooperatives, It would not be efficient or effective to expect each business organization to have an individual sustainability policy in the short term. The publication and dissemination of cocoa sustainability policies and tools, adapted to smallholders could support the implementation of specific measures and their evaluation by the EU importer. These policies should be aligned with basic international requirements and developed at the operational level. Producers and exporters should be trained in these sectoral policies, so that they can implement and integrate them into their individual activities.

Axis 4. Cross-cutting activities

These activities relate to the following areas:

- 4.1. Communication and socialization:** it is obvious that in order to comply with a law it is first necessary to know it. However, there are currently large groups of Nigerian producers and some exporters who do not have an adequate understanding of the requirements established by the EUDR. Therefore, it is proposed to carry out communication and socialization activities with an inclusive approach along the cocoa value chain. Dissemination of ad hoc informative materials, as well as training workshops for exporters, local agents, cooperatives and small producers should be carried out as soon as possible. Training of trainers would strengthen the sustainability of this activity.
- 4.2. Risk assessment by EU importers:** as explained, the EUDR establishes that each EU importer must establish the due diligence systems it considers appropriate to ensure compliance with the obligations of non-deforestation and legality throughout the supply chain, and from the production plot. Therefore, it is essential to have their collaboration to ensure the relevance of the Roadmap activities. The creation of an **ad hoc group** has been suggested, to promote formal or informal exchanges with EU importers and international traders. This would allow a better adjustment of actions, integrating their visions and responding in a more direct way to their main concerns. Specifically, it can allow collaboration in the evaluation of legality, promoting knowledge of the scope of legality adjusted to the reality of Nigeria, and strengthening efficient verification processes.
- 4.3. Civil society roadmap for the EUDR:** it has been mentioned above that civil society plays a key role from the point of view of risk assessment. It is therefore essential to integrate it into the EUDR adaptation strategy. The objective is twofold: 1) on the one hand, from the point of view of the private sector, the establishment of shared objectives with civil society can contribute to reducing or prevent potential conflict and, therefore, improve the perception of risk by the EU importer; 2) on the other hand, from the perspective of civil society, and also of the State of Nigeria, it is an opportunity to strengthen compliance with relevant laws and international conventions. From this perspective of alliance and collaboration, it is proposed to **develop a Civil society Roadmap for the EUDR**, based on the identification of shared and consensual objectives between civil society, the private sector and the State. This Civil society Roadmap, although closely linked to the activities described so far, should have an autonomous dynamic, adapted to the differentiated nature of each sector involved – civil sector, private sector, public sector.
- 4.4. Follow-up and monitoring:** Essential to any implementation plan is to ensure follow-up and monitoring activity. This activity should assess progress in implementation, progress towards the objectives and, also, potential deviations that move away from the established goals. The creation of an **EUDR Focal point**, who would provide -among other tasks- technical support to the NCMC could contribute to strengthening the sustainability of the Roadmap.

Axis 5. Other medium-term activities

This Roadmap is short-term oriented. The objective, as explained, is to facilitate the adaptation of the private sector to the EUDR as soon as possible. In the medium term, there are other priorities, logically, that must be visualized and planned according to the progress achieved. On the other hand, it would be positive to give continuity to the NCMC strategy by developing a strategic plan for the cocoa value chain.

By way of example, some of these medium- and long-term activities are briefly described below:

5.1. Strengthen traceability in cocoa and coffee chains: regardless of the traceability strategies that each trader, exporter or cooperative decides to implement, it is proposed to strengthen traceability in the cocoa value chain. The possibility of establishing a centralized traceability system should be assessed. Best practices and lessons learned from other relevant initiatives in the region should be considered.

5.2. Promote the formalization of producers: the formalization of producers is a condition for the modernization of value chains. Although the barriers to formalization are multiple and do not allow for a single approach, it is recommended to advance in a strategy that recognizes the importance of facilitating the transition from informality to formality.

5.3. Facilitate the financing of forest-friendly models: in the medium term, the proper implementation of the EUDR can contribute to turning the conservation of the forest into a commercial and economic resource. It will be a source of differentiation in the EU market, and at the same time it can also be a source of income. There are different strategies and tools, for example, carbon credits, forest credits or forest collateralization. It is suggested to strengthen these tools so that compliance with the EUDR results in better access to financing that, in turn, contributes to greater productivity and the progressive formalization of small and medium-sized producers.

5.4. Support for productivity improvement: finally, as a permanent objective of support for agricultural value chains, agricultural productivity must continue to be improved. Specifically, it is important to ensure the improvement of yields because, taking into account the prohibition of deforestation, future growth in production must come through increases in productivity, and not through the extension of the production area.

Annex 2. Meetings list⁹⁶

Organisation	Contact Person
Cocoa Association of Nigeria (CAN)	– Mufutau Abolarinwa, President
Cocoa Farmers Association of Nigeria (CFAN)	– Adeola Adegoke, National President
Cocoa Research Institute of Nigeria (CRIN)	– Patrick Adebola, Executive Director
Cross River State Ministry of Agriculture and Irrigation Development	– Williams O. Ifere, State Director of Cocoa/
EU Chamber of commerce	– Elele Ogunsanya, Executive Secretary
Federal Ministry of Agriculture and Food Security (NCMC)	– Mr Olutobaba Ajayi, Deputy Director/Cocoa Desk Officer
Federal Ministry of Environment, Department of Forestry	– Tijjani Ahmed Zakirai, Deputy Director
Federal Ministry of Industries, Trade and Investment	– Hajara Usman, Deputy Director, Trade and Investment
	– Ayodele George, National Cocoa Management Committee
	– Columba Teru VAKURU, Director/Chief Veterinary Officer of Nigeria
Gbemtan Investment Limited	– Mufutau Abolarinwa, CEO
IRISSMART	– Salman Dantata – Roland Eteri
Lagos Chamber of commerce	– Abosede Okeyemi, Director Member Relations
National Agency for the Great Green Wall	– Auwal Yunusa, General Manager
Natural Rubber Producers, Processors and Marketers Association of Nigeria (NARPPMAN)	– Prince Peter Igbinosun, President
Natural Rubber Producers, Processors and Marketers Association of Nigeria, Ogun State Chapter (NARPPMAN)	– Oladele Mike-Daniel, Chairman
New Initiative for Social Development	– Mr Osakuade, Forest Management Specialist
Nigeria Conservation Foundation	– Mohammed Boyi Garba, Zonal Coordinator, Abuja Office
Nigerian Export Promotion Council (NEPC)	– Iyanu Ajayi, Trade Promotion Officer
Rubber Estate Nigeria Ltd.(RENL)	– Olivier Odoukou, Managing Director
Ondo State Cocoa Council (NCMC)	– Ayo Akinola, Technical Adviser
Ogun State Ministry of Agriculture (NCMC)	– Mr Joshua Oyeshola, Director of Tree Crops – Iwara Edet, Director of Crop Production
Standard Organisation of Nigeria	
SUCDEN Cocoa Nigeria Limited	– Banji Akinbinu, Country Manager – Dare Adeyemi, Warehouse Manager
Tulip Cocoa Processing Limited	– Aremo Oluwakayode
World Conservation Society	– Andrew Dunn, Country Director

⁹⁶ Field mission 15-26 July 2024.

Annex 3. Bibliography

In addition to these bibliographical references, the sources of the data quoted are mentioned throughout the document.

1.	AgriTech in Nigeria: Investment opportunities and challenges, GSM Association, 2020
2.	Analysis of channel and structure of cattle marketing intermediaries in Mubi Local Government Area of Adamawa State, Nigeria, International Journal of Environment, Agriculture and Biotechnology, 2018
3.	Charcoal production and producers' tree species preference in Borgu local government area of Niger state, Nigeria. Journal of Energy Technologies and Policy. 2015
4.	Cocoa and gunshots: The struggle to save a threatened forest in Nigeria." Mongabay. Accessed August 2024. https://news.mongabay.com/2019/07/cocoa-and-gunshots-the-struggle-to-save-a-threatened-forest-in-nigeria/
5.	Cocoa production pattern in Nigeria: the missing link in regional agroeconomic development, Annals of the University of Oradea, Geography Series, 2020
6.	Comparative study on the distribution of value in European chocolate chains, FAO, 2020
7.	Competitiveness and Comparative Advantage of Cocoa Production in Southwestern Nigeria. A Policy Analysis Approach, International Journal of Research in Agriculture and Forestry, 2017
8.	Deforestation risk embodied in production and consumption of agricultural and forestry commodities 2005-2018, Environmental Research Letters, Volume 14, Number 5, 2019
9.	Drivers of Deforestation and Land-Use Change in Southwest Nigeria, Springer Nature Switzerland, Handbook of Climate Change Resilience, 2018
10.	Effects of Land Tenure and Property Rights on Farm Households' Willingness to Accept Incentives to Invest in Measures to Combat Land Degradation in Nigeria, Agricultural and Resource Economics Review 47/2, August 2018
11.	Economics of Smallholder Rubber Production under Different Tapping Arrangements in Delta State, Nigeria, Nigerian Agricultura Journal, Vol. 53, 2022
12.	Factors Affecting the Production and Sustainability of Natural Rubber Production in Nigeria (Trends and Overviews), Official Publication of Direct Research Journal of Agriculture and Food Science, Vol. 8, 2020
13.	Herder-Farmer Conflicts in South-East Nigeria: Assessing the Dangers, Wilson Center, 2022
14.	Illegal Deforestation for Forest-risk Commodities Dashboard: Nigeria, Forest Trends, 2022
15.	Impact of compliance with European Union (EU) regulations on the income of actors along the cocoa supply chain in Osun state, Nigeria, Sustainable Futures, 2023
16.	Land Acquisition and Use in Nigeria: Implications for Sustainable Food and Livelihood Security. In: Land Use: Assessing the Past, Envisioning the Future, 2019
17.	Market Structure and Performance of Value Chain Actors in Hides and Skins Processing and Marketing in Nigeria, National Animal Production Research Institute, 2016
18.	Natural Rubber value chains: A game changer for smallholders, International Association of Agricultural Economists, 2018
19.	Nigeria - Context and Land Governance, Land portal, 2021
20.	Nigeria's forests are fast disappearing – urgent steps are needed to protect their benefits to the economy and environment, https://theconversation.com/nigerias-forests-are-fast-disappearing-urgent-steps-are-needed-to-protect-their-benefits-to-the-economy-and-environment-223922
21.	Nigeria Leather Sector and the Economy the Missing Links, Journal of Research in Humanities and Social Science, Vol. 10, 2022
22.	Nigeria livestock roadmap for productivity improvement and resilience, 2020-2026, Ministry of Agriculture
23.	Production and Marketing Constraints of Natural Rubber Value Chain in Nigeria, 2019 Sixth International Conference, September 23-26, 2019, Abuja, Nigeria 295803, African Association of Agricultural Economists (AAAE)
24.	Review of the livestock/meat and milk value chains and policy influencing them in Nigeria, FAO, 2016
25.	Size and Causes of the Informal Sector of the Nigerian Economy: Evidence from Error Correction Mimic Model, Journal of Economics and Sustainable Development, Vol. 4, 2013

26.	System dynamics modelling of the cattle value chain in Nigeria, International Livestock Research Institute (ILRI), 2021
27.	Tenacity of small farms and poverty levels: Evidence of relationship among farming households in Nigeria, Research on Crops, 2019
28.	The Challenges of Deforestation and Management in Nigeria: Suggestions for Improvement, Ghana Journal of Geography Vol. 16, 2024
29.	The influence of religion and culture on women's rights to property in Nigeria, Cogent Arts & Humanities, 2020
30.	The Past, Present and Future Outlook of the Wood Industry in Nigeria, Wood Industry - Past, Present and Future Outlook, 2023
31.	The role of cocoa buying agents in cocoa value chain in Southwestern Nigeria, Journal of Agriculture and Rural Research, 2017
32.	Timber Legality Risk Assessment: Nigeria, Preferred by Nature, 2021
33.	Tracking down products linked to deforestation: the role of remote sensing technologies in implementing the EU legislation on Deforestation-free products, a Kayros report prepared for, The Green/EFA at the European Parliament, 2022
34.	Transforming Nigeria's Agricultural Value Chain. A case study of the Cocoa and Dairy industries, PWC, 2017
35.	Wood and Wood-Products Movements from and into Nigeria: The Need for Sustainability of Resource Base and Trade, Forests and Forest Products Society, 2021

