

EUDR Implementation: Winners and Losers in the “Race to Trace”

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Institute for Global Change Biology**



What I Hope You Learn Today

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3. Environmental governance can be in tension with social justice.



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2. Sustainability governance can “squeeze” suppliers, perpetuating green capital accumulation.
3. Environmental governance can be in tension with social justice.
4. Insight into conducting supply chain research in the field.





Supply Chains Accelerate Anthropogenic Global Change



Photo Credits: National Geographic

From Last Week: Role of Supply Chain Initiatives in Reducing Deforestation

Approach	Method	Examples	Opportunities	Limitations
Public Initiatives	Government-led involuntary initiatives. Examples include suspending concession licenses, mandated due diligence, national pledges, and required production standards.	-Indonesia Forest Moratorium (Suspending Concessions) -EU Timber Regulation (Due Diligence) -Colombia's National Zero Deforestation Agreement (National Pledges) -Malaysian Sustainable Palm Oil (MSPO) (Required Standards)	-Involuntary (stakeholder buy-in) -Broader scope and scale -Diversity of approaches	-Implementation challenges -May not address the systemic issues underlying deforestation -Lack of procedural justice
Collective Aspirations	Commitments adopted by multiple stakeholders beyond the direct control of individual firms (Lambin et. al., 2018).	-NY Declaration of Forests -CGF Tropical Forest Alliance	-Diverse stakeholder engagement -Low barrier to entry	-Lack of stakeholder accountability -Lack of implementation guidance
Sectoral Agreements	Trade-agreed-upon moratoria or sanctions to exclude producers who deforest after an agreed cutoff time for a specific commodity or region.	-Amazon Soy Moratorium (ASM) -Brazil's Cattle Agreement/Terms of Adjustment of Conduct Agreement	-Collective adoption -B2B (not consumer-facing) -Alignment with public initiatives	-Narrow regional and commodity scope -Could lead to deforestation leakage
Voluntary Standards or Certifications	Consumer-facing multi-stakeholder certifications or standards that seek to incentivize and normalize sustainable production standards.	-Rainforest Alliance -RSPO -FSC	-Consumer facing -More stringent -Social considerations	-Low market adoption -Lack of disciplinary action -Static assessments
Firm-Specific Initiatives	Initiatives tailored to a firm's specific ZDC. Examples include supplier codes of conduct, audits, land assessments, grievance mechanisms, and forest monitoring or mapping.	-Supplier Audits -HCV/HCS Evaluations -Forest Monitoring via. Global Forest Watch Pro	-Tied to a firm's CSR strategy. -Diversity of approaches -Concrete actions	-Limited public visibility -Narrow scope -Prioritizes firm risk reduction over transformational change

Deforestation-Free Governance Initiatives: Where they are complementary and in tension.

Synergistic

- Overarching objectives (deforestation-free commodity chains)
- Target stakeholder (producers)
- Implementation stepping stones
- Holistic deforestation-free initiatives

In Conflict

- Unaligned deforestation cutoff dates
- Contradictory definitions of forests, deforestation and legality
- Differing stringency scales for requirements
- Initiatives may disincentivize one another

These initiatives are not eradicating deforestation.

- Low adoption rates.
- Lack of accountability.
- Narrow geographical and commodity scope.
- Inability to address root causes of deforestation (e.g, supply chain opacity).



Rationale for the EUDR

**These initiatives are not
eradicating deforestation.**

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- Lack of accountability.
- Narrow geographical and commodity scope.
- Inability to address root causes of deforestation (e.g, supply chain opacity).

**What's different about
involuntary deforestation-free
public governance**

- Forced adoption.
- Explicit accountable parties (traders and operators).
- Global scope across seven forest-risk commodities.
- Targeting systemic supply chain issues (traceability).

EU Deforestation-Free Regulation Requires Traders/Operators To Provide:

- 1. Geographic coordinates of the land where the product was produced.**
- 2. Names of all the suppliers who provided products.**
- 3. Evidence that products are deforestation free.**
- 4. Evidence that suppliers abide by social and environmental laws.**

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Forest-Risk Commodities Subject To Compliance:



Precursors to the EUDR

October 2003
EU Forest Law
Enforcement
Governance and
Trade (FLEGT)
Action Plan is
adopted

March 2013
EU Timber
Regulation (EUTR)
enters into
application

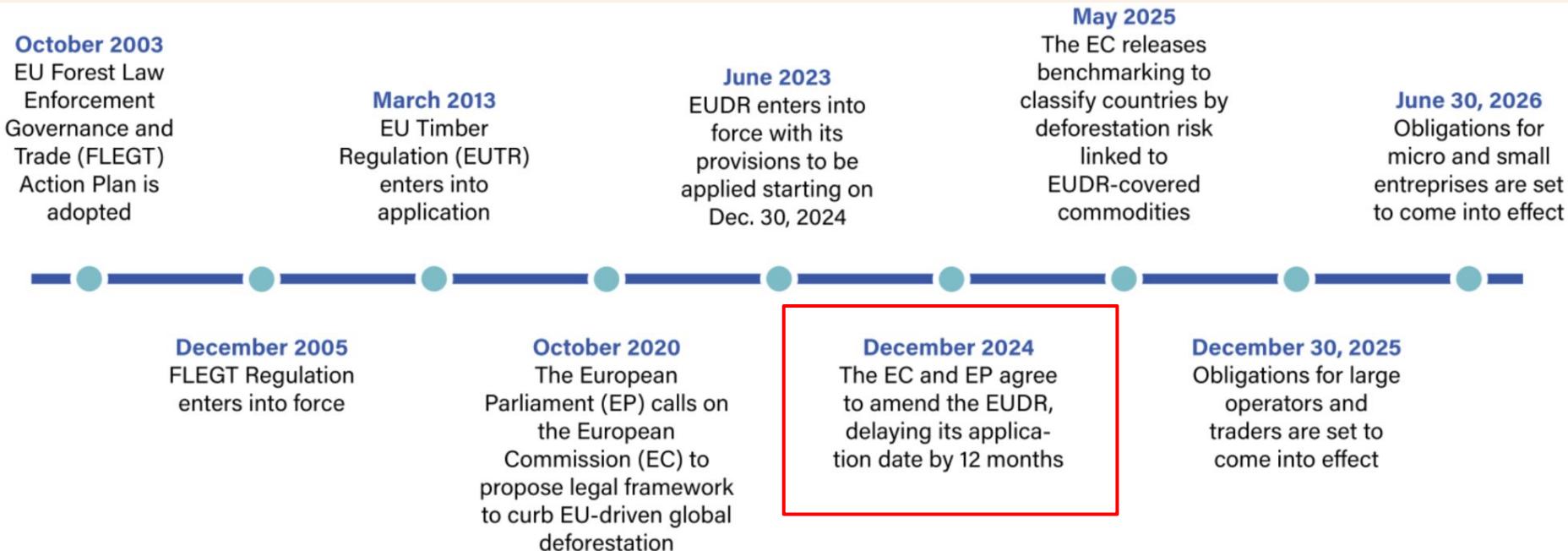
June 2023
EUDR enters into
force with its
provisions to be
applied starting on
Dec. 30, 2024

December 2005
FLEGT Regulation
enters into force

October 2020
The European
Parliament (EP) calls on
the European
Commission (EC) to
propose legal framework
to curb EU-driven global
deforestation



Precursors to the EUDR

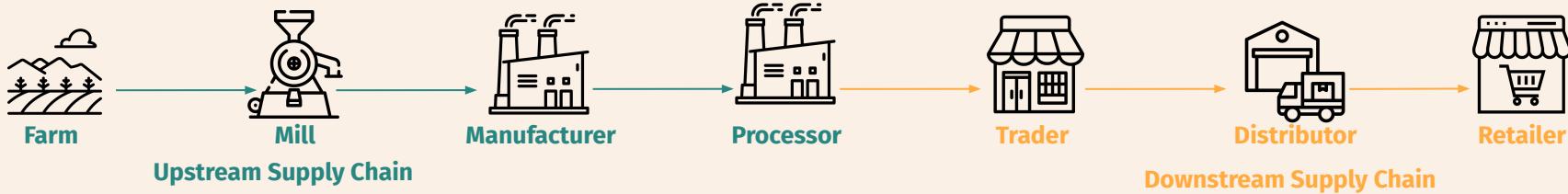


Why some stakeholders (e.g., producer countries and companies) pushed for EUDR delays

- 1. Disconnect between EUDR requirements and supply chain realities.**
- 2. Fears of maintaining or introducing social inequities (i.e., smallholder exclusion).**

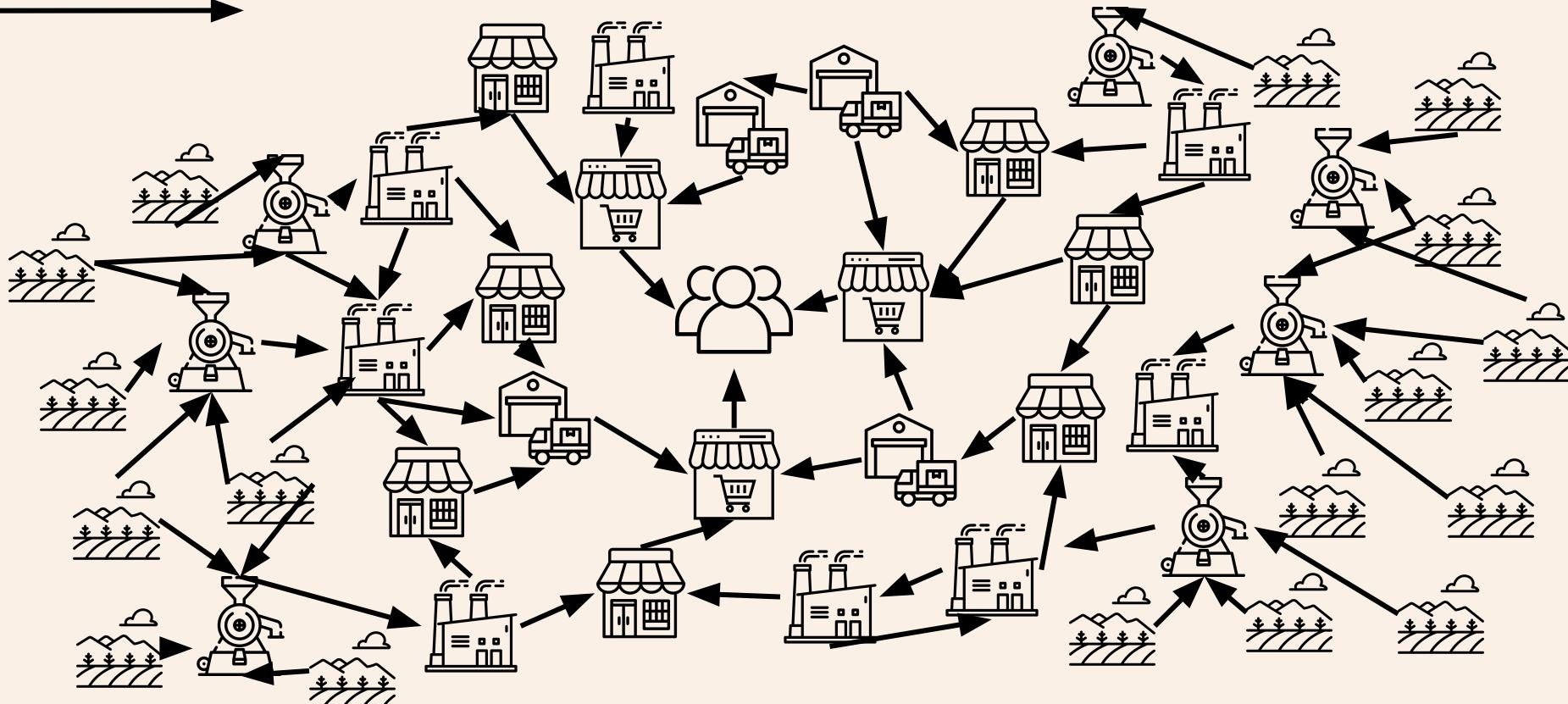


What The EUDR Thinks Supply Chains Are Like



What Supply Chains Actually Look Like

Product Flow



Agricultural Supply Chain can be Buyer-Driven, Pushing Requirements Upstream

Product Flow
→

Governance Flow
→



Buyer-Driven Market-Focused Environmental Governance Affecting The “First Mile”

Product Flow

Governance Flow



Supply Chains Opacity Creates Compliance Challenges

Product Flow

Governance Flow



Buyers & Consuming Countries Demand Sustainability

Upgrading From Upstream Suppliers

1.

Process
Upgrading

Reorganizing production for greater efficiency and quality.

2.

Product
Upgrading

Improving product quality to increase value for consumers.

3.

Functional
Upgrading

Acquiring new functions to improve operational activities and skills.

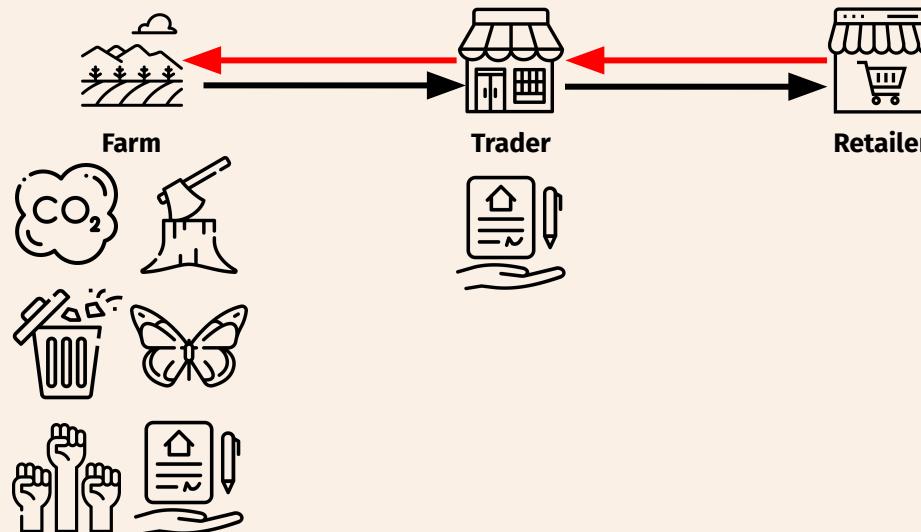
4.

Inter-Sectional
Upgrading

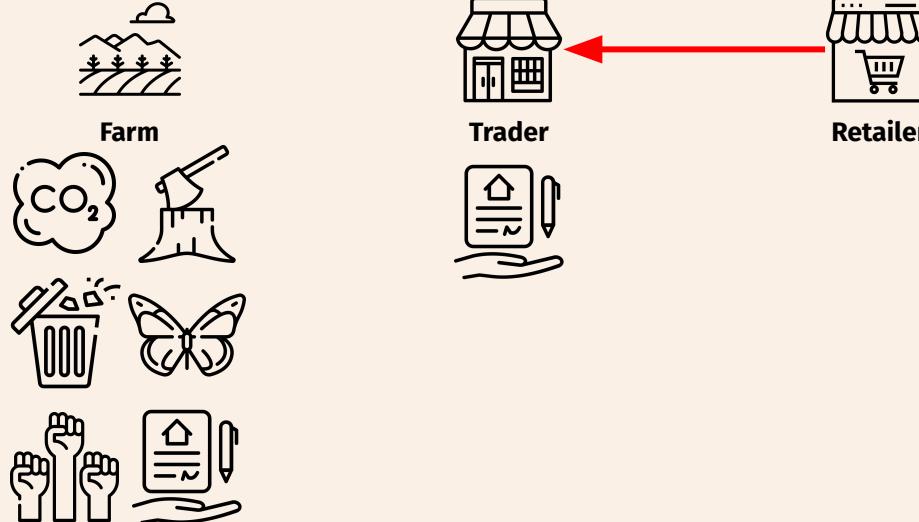
Moving into new productive activities.

Green Capital Accumulation (The “Supplier Squeeze”)

“Buyers capture a disproportionate share of sustainability value at the expense of suppliers who are burdened with the hidden cost of compliance.”



Will Market-Based Environmental Governance Cause the “Supplier Squeeze” to Become the “Supplier Crush”?



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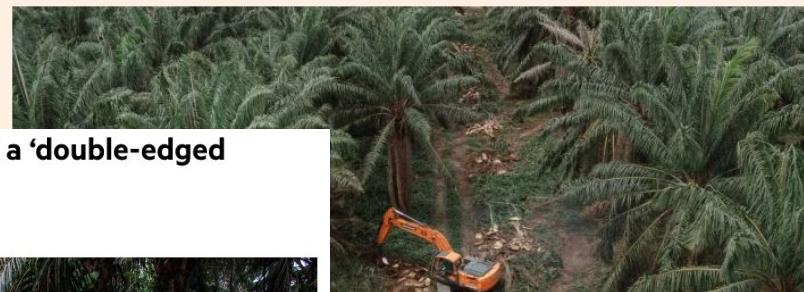


Agricultural commodities

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Indonesia warns of ‘chaos’ from EU deforestation law

Pressure builds on Brussels to delay implementation of new rules that industry says will impose administrative burden



EU Deforestation Regulation dubbed a ‘double-edged sword’ for global palm oil markets

By Natasha Teja



Palm oil: Report reveals split supply chain strategy to address EUDR

By Jane Byrne

21-Mar-2024 - Last updated on 24-Apr-2024 at 07:18 GMT



Can Europe Save Forests Without Killing Jobs in Malaysia?

A new regulation aims to rid the palm oil supply chain of imports that come from former forestland. Southeast Asian countries say it threatens livelihoods.



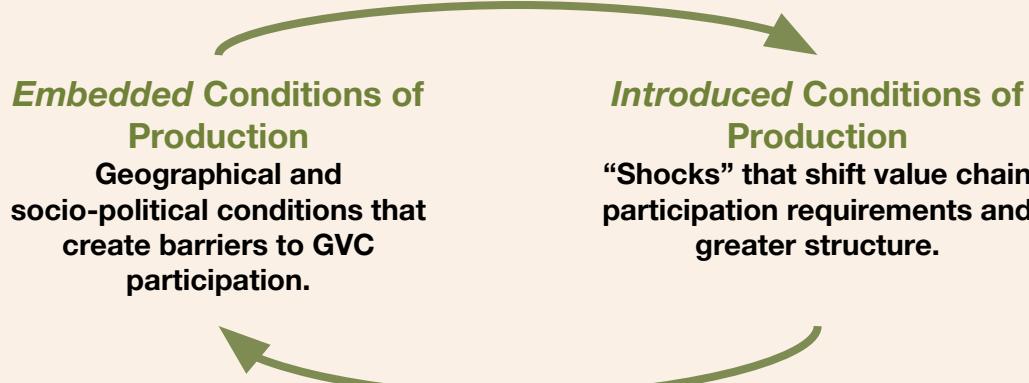
AFRICA

New EU deforestation regulations a challenge for Namibian farmers

August 22, 2024 2:59 PM By Vitalio Angula



Smallholder face different types of barriers to participate in global supply chains.



Smallholder farmers face barriers to participate in global value chains.

Embedded conditions of production.



Transport
Infrastructure



Land
Rights



Exploitative
Midstream



Labor
Supply



Production
Input Access



Credit & Capital
Access



Market-Focused
Sustainability
Governance



Collective Group
Participation



Supply
Constraints

Do introduced conditions of production take into account social inequities at the production level?

Introduced conditions of production.

9.6.2023

EN

Official Journal of the European Union

L 150/206

REGULATION (EU) 2023/1115 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 31 May 2023

on the making available on the Union market and the export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee ([1](#)),

After consulting the Committee of the Regions,

Acting in accordance with the ordinary legislative procedure ([2](#)),

Whereas:

(1) Forests provide a broad variety of environmental, economic and social benefits, including timber and non-wood forest products and environmental services essential for humankind, as they harbour most of the Earth's terrestrial biodiversity. They maintain ecosystem functions, help protect the climate system, provide clean air and play a vital role for the purification of waters and soils as well as for water retention and recharge. Large forest areas act as a moisture source and help prevent desertification of continental regions. In addition, forests provide subsistence and income to approximately one third of the world's population and the destruction of forests has serious consequences for the livelihoods of the most vulnerable people, including indigenous peoples and local communities who depend heavily on forest ecosystems. Furthermore, deforestation and forest degradation reduce essential carbon sinks. Deforestation and forest degradation also increase the likelihood of contact between wild animals, farmed animals and humans, thereby increasing the risk of spreading new diseases and the risks of new epidemics and pandemics.

(2) Deforestation and forest degradation are taking place at an alarming rate. The Food and Agriculture Organization of the United Nations (FAO) estimates that 420 million hectares of forest – about 10 % of the world's remaining forests, equaling an area larger than the European Union – have been lost worldwide between 1990 and 2020. Deforestation and forest degradation are, in turn, important drivers of global warming and biodiversity loss – the two most important environmental challenges of our time. Yet, every year the world continues to lose 10 million hectares of forest. Forests are also heavily impacted by climate change and many challenges will need to be addressed to ensure the adaptability and resilience of forests in the

Types of Justice - How do these relate to the EUDR?

Distributive Justice:

Procedural Justice:

Retributive Justice:

Restorative Justice:

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Distributive Justice: Fair distribution of resources, benefits, and risks. Discrete groups should not be made worse off for the greater good.

Procedural Justice: Everyone getting a “seat at the table”, especially those most likely to be affected by these policies.

Retributive Justice: Acknowledging past inequities via punishment. It is a retroactive approach that justifies punishment as a response to past injustice or wrongdoing.

Restorative Justice: Acknowledging past inequities via reparations for past harms.

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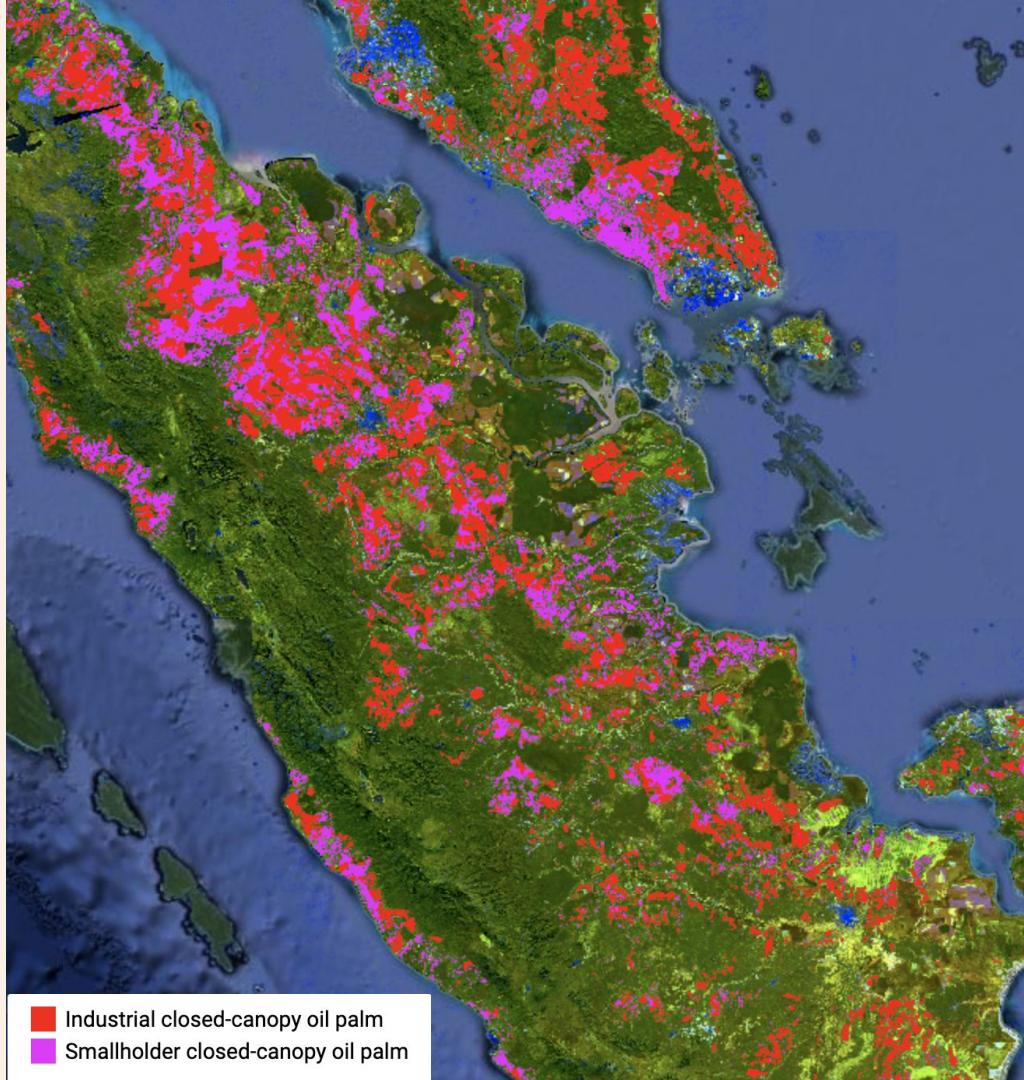
**Smallholder farmers are the
backbones of agricultural supply
chains; smallholder exclusion
from sustainability-driven
markets could...**

...threaten rural livelihoods

**...increase the environmental impact
of forest-risk commodity supply
chains**

...heighten supply chain fragility

**...pit environmental responsibility
against an agricultural just transition**





EUDR Delayed - Again!?



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ECONOMY | TRADE

EU, Indonesia Ink Trade Deal After Years of Talks

Asian countries are strengthening ties with non-U.S. partners

By Ying Xian Wong [Follow](#) and Amanda Lee [Follow](#)

Updated Sept. 23, 2025 1:45 am ET

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The EU proposes delaying anti-deforestation law, again



Bobby Bascomb

23 Sep 2025 European Union

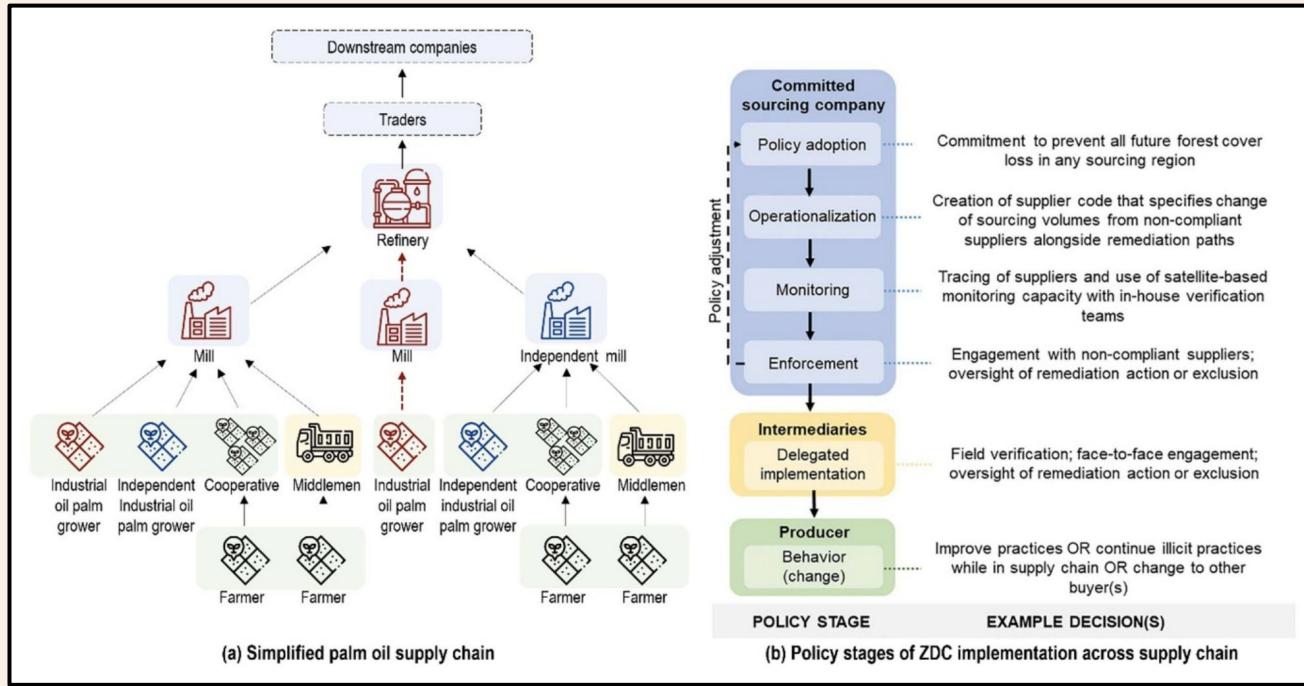
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How well does the implementation of corporate zero-deforestation commitments in Indonesia align with aims to halt deforestation and include smallholders?

Adelina Chandra, Rachael D Garrett, Kimberly M Carlson, Robert Heilmayr, Matthieu Stigler, Jason J Benedict and Janina Grabs



Key Takeaways

-Companies ZDCs differ. What makes a comprehensive ZDC:

1. Zero deforestation and no planting on peatland (covered by all suppliers)
2. 100% traceability to the mill and plantation
3. Smallholder support (??)
4. Prioritize high risk suppliers
5. Functional grievance system
6. Transparency

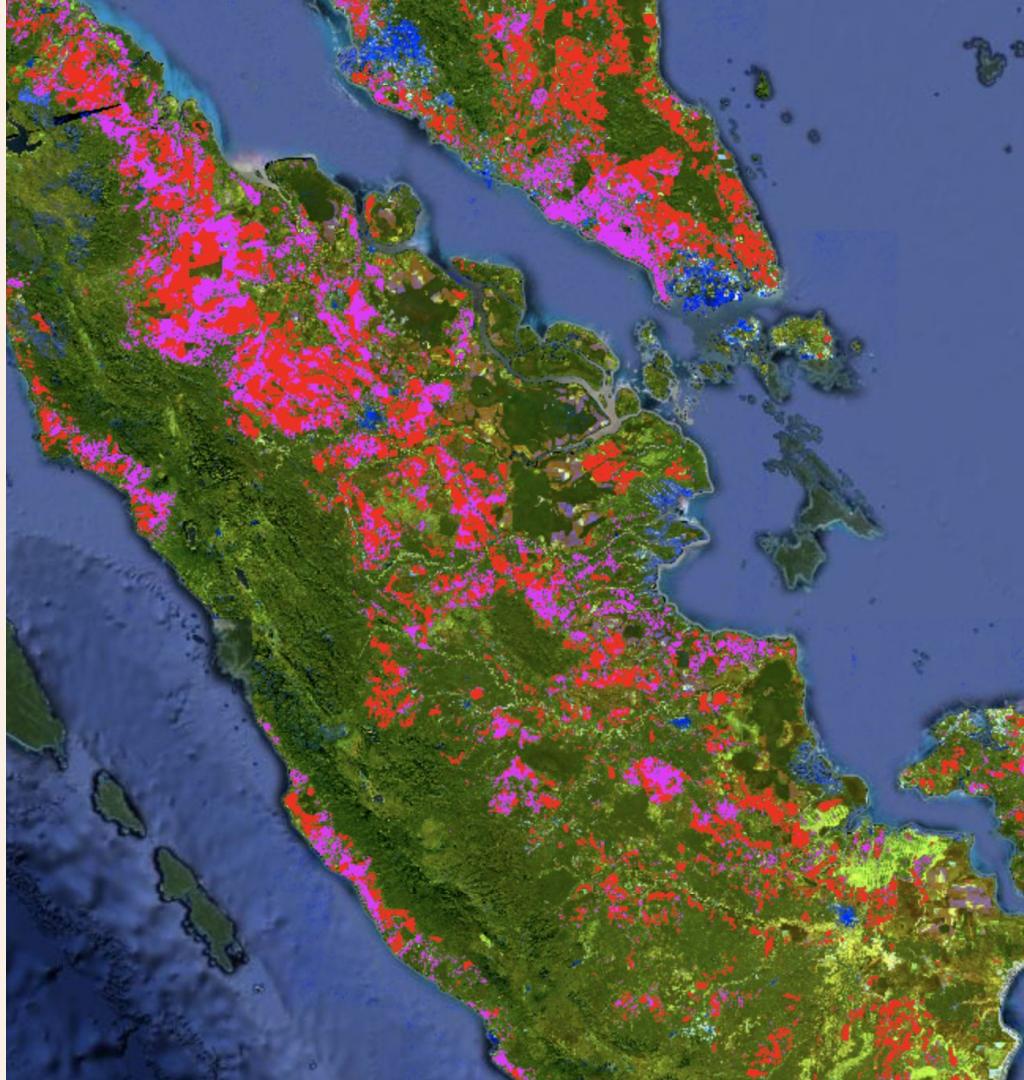
-Via a spatial and functional fit analysis, the researchers found that companies' ZDCs underperform in four categories:

- Traceability, transparency, capacity to support high risk areas, and smallholder inclusion.
- 77% of forests at risk of conversion are not covered by high-quality ZDC policies of mill owners

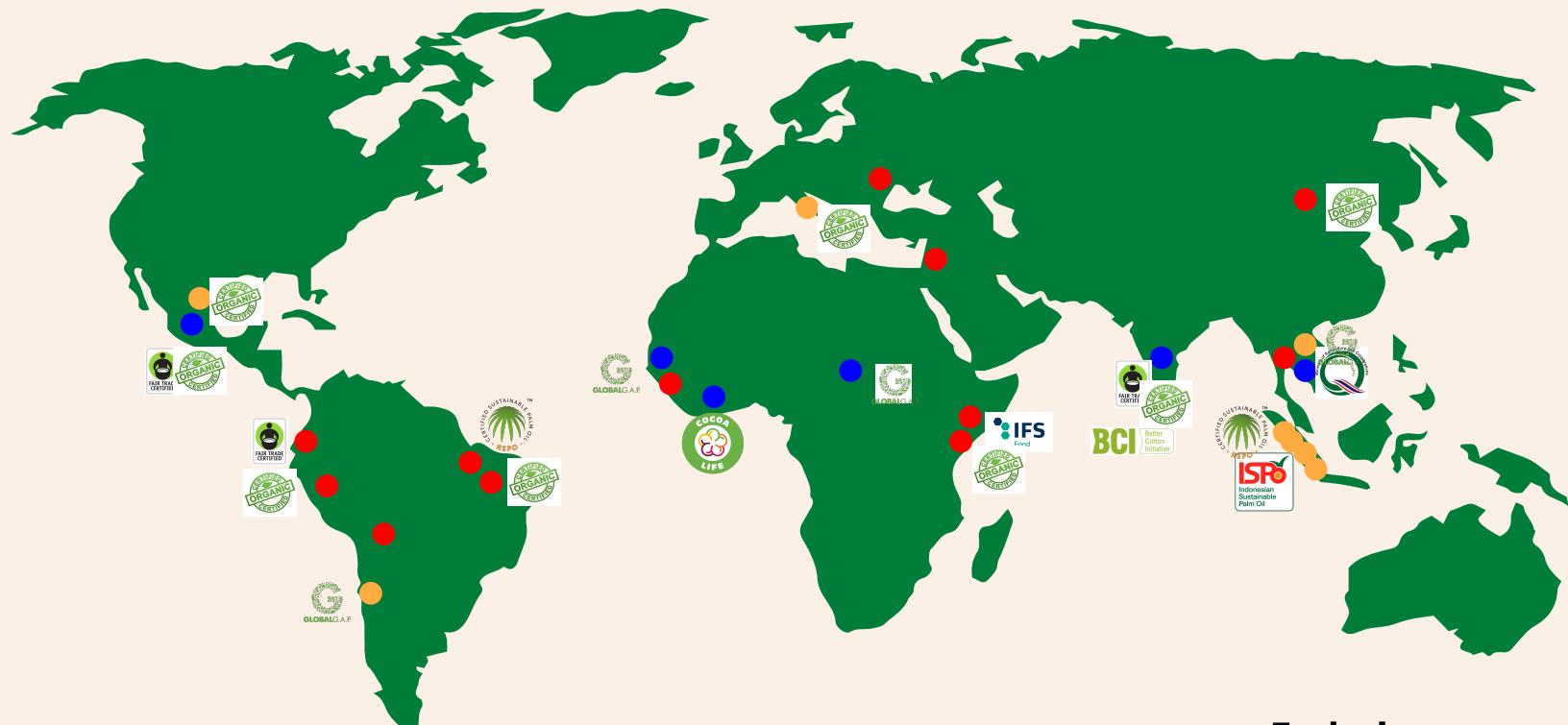
“Even when a policy is comprehensively designed and implemented, it may still fail to reach its desired environmental outcomes if its reach does not match the biophysical conditions on the ground.”

“Policies that do not take into account local socio-economic contexts may create unintended consequences such as the exclusion of vulnerable producers.”

We know a lot about the *risks* of exclusion, but is sustainability-governance-driven exclusion *actually* happening?



Where Sustainability Governance-Driven Smallholder Participation Change Has Happened



- Exclusion**
- Threat of Exclusion**
- No Exclusion**

Two Contrasting Pathways to Assessing Sustainability-Governance-Driven Smallholder Farmer Exclusion

Approach #1: Qualitative Interviews of Smallholder Farmers

Research Design Commonalities



Country-Specific



Single Commodity



Cross Sectional



Surveys, Interviews

Approach #2: Quantitative Analysis of Exporter/Buyer Data

Research Design Commonalities



Multi-Regional



Multi-Commodity



Longitudinal



Econometric Analysis, Supply Chain Tracing, Remote Sensing

Approach #1: Brandi (2017), Tennent & Lockie (2013), Okello (2011)

Approach #2: Henson et al. (2013), Chandra et. al. (2024), Schuster and Maertens (2013)

We are Unequipped to Ground Fears of Sustainability-Driven (EUDR) Smallholder Exclusion

Theoretical Gaps

Theories related to sustainability upgrading and the supplier squeeze focus on the risk of exclusion but lack evidence of exclusion.

We lack nuance to the construct of “exclusion”.

Methodological Gaps

Historically, sustainability-driven exclusion has been identified and measured via qualitative interviews of smallholder farmers that are region and commodity-specific.

We lack a commodity and region-agnostic method to quantify sustainability governance-driven exclusion.

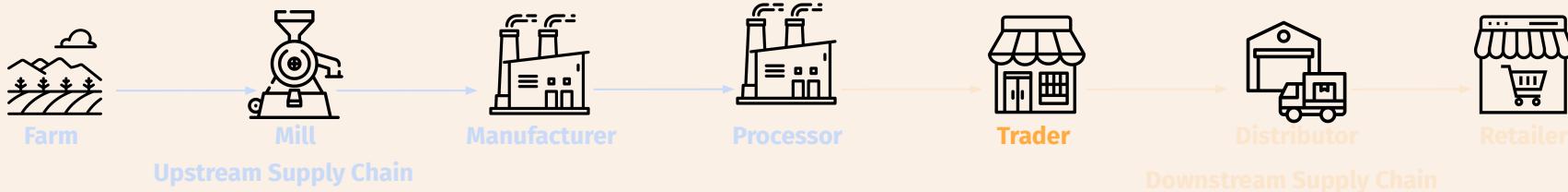
Visibility Gap

Supply chain structural barriers, such as supply chain opacity, complexity and dynamic participation hinder our ability to ground fears of exclusion.

We lack visibility into “who is” in the supply chain to understand “who is not” in the supply chain.

Why Focus on Traders and Operators?*

**While traders and operators are the stakeholders required to demonstrate EUDR compliance, the large growers may have ultimate power in determining upstream supply chain participation.*

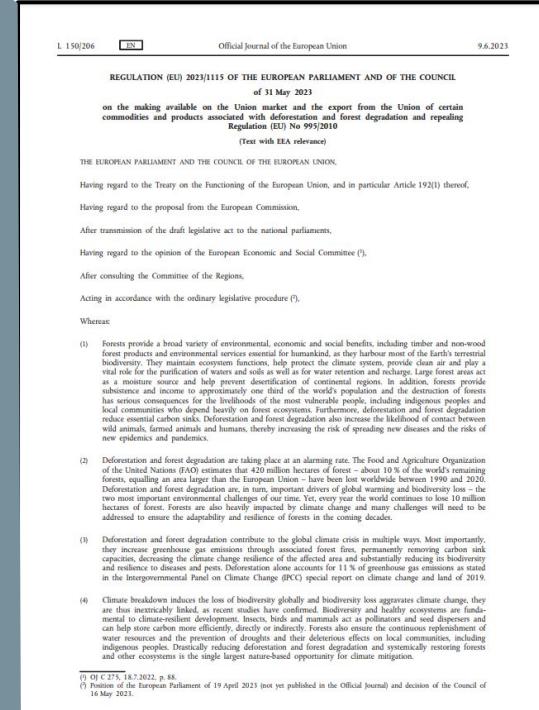


Rationale

- Subject to EUDR Compliance
- Aggregate Supply
- Source Products Globally
- Disappropriate Power in Buyer-Driven Supply Chains

Hypothesized EUDR “Negligible Risk” Indicators

Input-Output Territoriality Governance	Trader/Operator Risk Consideration	Guidance on EU Deforestation Regulation	
		Lower Exclusion Risk	Greater Exclusion Risk
	Number of Stages/Actors	<i>“Were there several processors and/or steps in the supply chain before a particular relevant product was placed on, or made available on, or exported from the Union market?”</i>	
	Product Mixing	<i>Is the relevant product a highly processed product (which may itself contain multiple other relevant products)?</i>	
	Supply Fragmentation	<i>“Does the relevant product contain relevant commodities sourced from several plots and/or countries of production?”</i>	
	Land Management	<i>“What is the rate of forest cover and what is the prevalence (rate) of forest degradation or deforestation in the country of production or parts thereof?”</i>	
	Illegal Production	<i>“How high is the prevalence (rate) of illegal production of the relevant commodity within the country/parts thereof?”</i>	
	Country Risk Designation	<i>“What is the assigned risk level of the country of production or parts thereof, in accordance with Article 29?”</i>	
	Market-Based Sustainability Governance	<i>“Is there any complementary information on EUDR compliance of companies within the supply chain available from certification or third-party verification schemes?”</i>	
	Corruption	<i>“Is there concern in relation to the country of production and origin or parts thereof, such as level of corruption, prevalence of document and data falsification, lack of law enforcement...”</i>	
	Human Rights	<i>...violations of international human rights, armed conflict or prevalence of sanctions imposed by the UN Security Council or the Council of the European Union?”</i>	



Next Steps: Stakeholder Input On Participation Indicators

We want your feedback on our research design?

- What would you ask traders and operators?
- What other embedded and introduced conditions of production would you include?
- What questions are unclear?

Link to Survey

[https://umich.qualtrics.com/jfe5/preview/previewId/d4f72566-fdc2-42a3-a54f-4bfa
d4402ca0/SV_enykh32dxZUvfU?Q_CHL=preview&Q_SurveyVersionID=current](https://umich.qualtrics.com/jfe5/preview/previewId/d4f72566-fdc2-42a3-a54f-4bfa d4402ca0/SV_enykh32dxZUvfU?Q_CHL=preview&Q_SurveyVersionID=current)

