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Briefing Paper

The case of EUDR in Ethiopia

How to secure climate, trade and development goals, and overcome risks of market exclusion

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October 2026

Abstract

Government driven sustainability objectives are reshaping soft commodity value chains, as exemplified by the European Union Deforestation Regulation (EUDR). While the objectives of the EUDR are laudable, transition risks arise because of legal compliance and the provision of geolocation data. In the case of Ethiopia (the birthplace of coffee) because production is almost entirely undertaken by smallholders, risks of exclusion because of both legality and geolocation compliance challenges, could be as high as 60%. As the EU accounts for 30% of total coffee exports, these exclusion risks could translate into losses of up to 0.5% of Ethiopia's GDP with major implications for foreign exchange, local livelihoods and possible financial spillovers. To overcome these challenges, we explore how more facilitative approaches could better support climate, trade and development objectives and reduce the risks of market exclusion.

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How to cite: Engida, E., Keane, J., Arce Fernandez, B. and Ayele, Y. (2026) The case of EUDR in Ethiopia: how to secure climate, trade and development goals, and overcome risks of market exclusion. ODI Global Briefing Paper. London: ODI Global (www.odi.org/publications/the-case-of-eudr-in-ethiopia-how-to-secure-climate-trade-and-development-goals-and-overcome-risks-of-market-exclusion)

Acknowledgements

About this publication

This publication is based on in-country case-study analysis led by Ermias Engida, intended to inform analytical work on the “Green Squeeze” which identifies the transition risks arising from trade related climate measures. This research is funded by the Open Society Foundation. We are grateful to Laura Kelly, former Director of the International Institute for Environment and Development (IIED) London, for external peer review and the constructive comments received. Any errors remain the authors.

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Contents

1 Introduction 6
2 Conceptual framework and methodology 8
3 Ethiopia's coffee sector, risks and potential incentives 11
3.1 Ethiopia's coffee production systems and market 11
3.1.1 Production trends 11
3.1.2 Risks from climate change and policy response measures 13
3.2 Key findings: EUDR economic and financial risks 13
3.2.1 EUDR preparedness 15
3.2.2 Remaining EUDR challenges and transmission channels 17
3.2.3 Economic and financial risks 19
3.3 Complementary incentive mechanisms for avoiding deforestation 23
3.3.1 Price incentives 24
4 Conclusions and recommendations 28
References 30
Annex 1 – Primary data collection 34

Abbreviations and acronyms

CBE	Commercial Bank of Ethiopia
CMiMS	Coffee Market Information Management System
COOP	Cooperative Bank of Oromia
ECFF	Environment and Coffee Forest Forum
ECX	Ethiopian Commodity Exchange
ECTA	Ethiopian Coffee and Tea Authority
ECTMS	Ethiopian Coffee Traceability Management System
EFI	European Forest Institute
ETB	Ethiopian birr
EU	European Union
EUDR	European Union Deforestation Regulation
FAO	Food and Agriculture Organization of the United Nations
FDRE	Federal Democratic Republic of Ethiopia
GHG	greenhouse gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ (German Agency for International Cooperation)
GPS	global positioning system
ICO	International Coffee Organization
KII	key informant interview
LDC	least developed country
MFI	microfinance institution
MRV	monitoring, reporting and verification
NGFS	Network for Greening the Financial System
OEC	Observatory of Economic Complexity
OCFCU	Oromia Coffee Farmers' Cooperative Union
REDD+	Reducing Emissions from Deforestation and Forest Degradation and additional forest-related activities that protect the climate
SIDS	small island developing state
TrCM	trade-related climate measure
UNCTAD	United Nations Conference on Trade and Development
USDA	United States Department of Agriculture

1 Introduction

Despite contributing minimally to global greenhouse gas (GHG) emissions and seeking to uphold global climate and development goals, many developing countries, including least developed countries (LDCs) and small island developing states (SIDS), face exposure to trade-related climate measures (TrCMs). Concerns have arisen regarding the potential for these to increase trade, thereby reducing market access and, more generally, leading to increased supply chain consolidation among fewer, larger, firms. These risks apply across different types of products and markets, but the empirical evidence on this remains weak, and there is a lack of comparative case studies.

This briefing paper focuses on measures intended to reduce deforestation – a global goal set with the intention to reduce GHG emissions. It extends existing analyses of the economic impacts of the EUDR by engaging more fully with the issues typically confronting commodity-dependent exporters, particularly soft commodity exporters, exposed to climate-related market and price instability. In doing this, the study focuses on the economic and financial risks arising from the application of the EUDR to Ethiopia's coffee sector.

With the EUDR set to take effect by the end of 2026, this analysis focuses on how to manage emerging economic and financial risks more effectively. We adopt a value chain approach, which includes mapping the different chain nodes and tiers through which coffee is produced and traded in and from Ethiopia to the EU and other markets. We then assess the value chain's level of preparedness for the application of the EUDR and its related obligations. Then, by comparing risk exposure with preparedness, we identify the potential economic and financial vulnerabilities associated with the Regulation.

Reducing deforestation is widely recognised as a core climate change mitigation strategy, to be implemented through a range of policy instruments. The EUDR stands out among these as a novel TrCM. While pursuing the legitimate objective of minimising embedded deforestation in EU imports, the EUDR relies on mandatory due diligence backed by a restrictive approach – namely, loss of market access.

Because it is a first-of-its-kind regulation, assessing its potential shortcomings is critical, particularly if similar measures are replicated elsewhere. Moreover, because the EUDR does not systematically incorporate incentives, nor incorporate land-use changes induced by

climate change including production shifting into other altitudes, we explore how incentive-based approaches could complement due diligence requirements and support both climate and development objectives. We conclude with related policy recommendations.

2 Conceptual framework and methodology

In our conceptual framework, the EUDR acts as a transition driver that generates economic and financial risks. To assess exposure to economic and financial risks from the EUDR in Ethiopia's coffee sector, the analysis adapts a framework developed by the Network for Greening the Financial System (NGFS) (2024) and applied in similar coffee value chain studies (Keane et al., 2025). Risks are shaped by non-compliance factors and mitigated by stakeholder preparedness. Non-compliance risks stem from the EUDR pillars – namely, geolocation, traceability and legality. Preparedness is assessed on these same pillars.

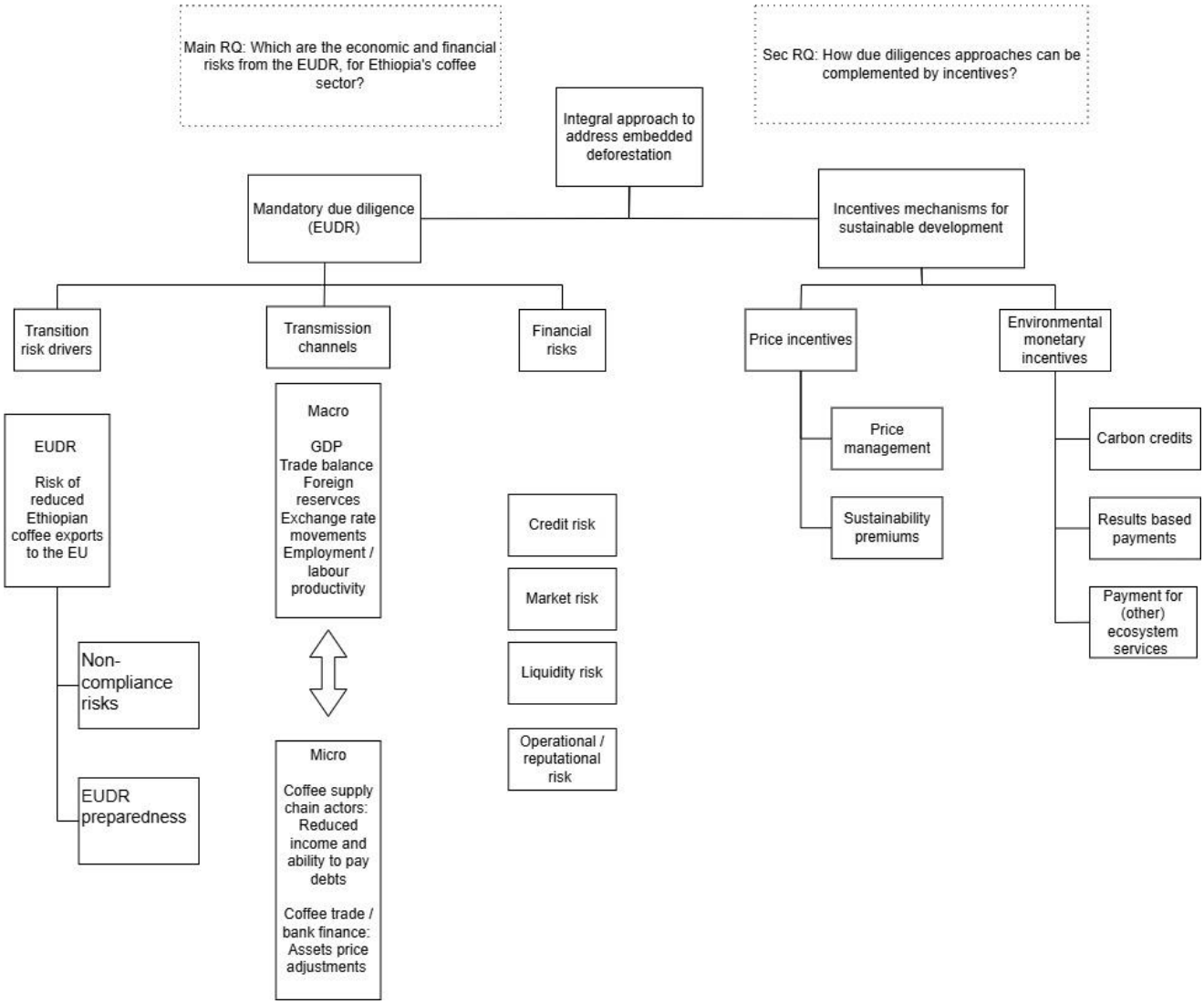
Transmission channels operate at both macro and micro levels and have a dual nature. They constitute economic risks and act as channels through which financial risks materialise. Their interdependence reinforces overall exposure. The potential impacts allow for the identification of financial risk exposure across actors in the coffee value chain and the financial sector (see Figure 1).

However, contrary to this we also explore how incentive mechanisms could accompany due diligence approaches through targeting some of the indirect drivers of deforestation. For example, we examine how climate-related pressures can be mitigated while economic gains through increased returns from coffee production are generated. The analysis therefore explores a range of instruments, including price-based incentives and sustainability premiums, but also looks at broader issues related to price management across the value chain. The use of price management is becoming more visible across hard commodities but continues to be challenging for soft commodity exporters.[1]

We also consider other incentives, including carbon credits, results-based payments (notably the Reducing Emissions from Deforestation and Forest Degradation and additional forest-related activities that protect the climate, REDD+, framework) and payments for ecosystem services. The rationale for examining multiple mechanisms is that, in isolation, their impact may be limited; used in combination, they could shift incentives and support more sustainable production and reduced deforestation.

[1] See UNCTAD (2026) and World Bank (2026).

Figure 1 : Conceptual framework



Source: Authors

A comprehensive desk review was conducted for the study, covering institutional documents including government policies and existing analyses of the coffee sector, including gaps in access to finance and regulatory frameworks. Primary data collection relied on key informant interviews (KIIs) using tailored semi-structured survey tools focused on economic and financial risks (see Annex 1). Although smallholder farmers were not directly interviewed, their perspectives were captured indirectly through interviews with cooperative unions, exporters and processors. The analysis applies descriptive methods to synthesise findings.

In total, 28 KIIs were conducted across a range of stakeholders, including financial institutions, cooperative unions, exporters, processors, government bodies and sector associations. The Ethiopian Coffee and Tea Authority (ECTA) – the main government body overseeing EUDR-related preparations – was the sole public agency interviewed. Financial sector perspectives were captured

through the central bank and three major commercial banks: the Commercial Bank of Ethiopia (CBE), the Cooperative Bank of Oromia (COOP) and Awash Bank. Key cooperative unions – the Oromia Coffee Farmers' Cooperative Union (OCFCU), the Sidama Coffee Farmers' Cooperative Union and the Yirgacheffe Coffee Farmers' Cooperative Union – provided insights into the production, processing and export stages. Additional inputs were gathered from private exporters and processors, national associations and development partners, ensuring broad coverage of the value chain.

3 Ethiopia's coffee sector, risks and potential incentives

Coffee is central to Ethiopia's economy and supports around 15 million people across various stages of the value chain (USDA, 2025). It is estimated that the livelihoods of around a quarter of the population depend directly or indirectly on the coffee value chain (USDA, 2023). In 2024, the EU accounted for around 30% of the country's coffee exports.[2] Any disruption to coffee exports is therefore not just a sector-specific issue but one that could prompt far wider macroeconomic and development challenges.

GHG emissions in Ethiopia are concentrated in agriculture, forestry and other land use, which represent 82.5% of total emissions (FDRE, 2024). However, this is driven largely by emissions from biomass use (for cooking), which is the single largest source (FDRE, 2021). Overall, Ethiopia's direct historical contribution to climate change is minimal (ibid.), with the country accounting for an estimated 0.36% of global emissions in 2023 (Crippa et al., 2025).

Deforestation remains a concern, but coffee is not a significant contributor. Ethiopia lost 18.6% of its forest area between 1990 and 2015 (Young et al., 2020), primarily because of agricultural expansion and subsistence demand for fuelwood and construction materials. In contrast, recent coffee-linked deforestation is far more limited, with no more than 20 coffee plots linked to post-2020 deforestation (EFI, 2025). Risks, therefore, deal more with formal administrative compliance than with deforestation.

3.1 **Ethiopia's coffee production systems and market**

3.1.1 Production trends

Production trends indicate sustained expansion in both output and cultivated areas. Ethiopia's coffee production for the 2025/26 season is projected at approximately 11.6 million 60-kilogram bags (around 694,000 tonnes), representing a 9% increase compared to the previous year (USDA, 2025). Over the past decade, production has grown by around 63%, while the total area under cultivation has

[2] In 2024, they totalled $417 million and in 2025 they substantially increased to $916 (UN Comtrade, n.d.).

expanded by approximately 44%. This growth has been driven in part by improvements in yields, which average 8.4 quintals per hectare.

Ethiopia achieved a historic milestone in 2024/25 fiscal year, exporting nearly 469,000 tonnes of coffee and generating a record $2.65 billion in revenue. This performance represents an 85% increase in value and a 56% increase in volume from the previous year. Although Ethiopia consumes roughly half of the coffee produced, the remainder is exported (USDA, 2025). Ethiopia's coffee exports are directed primarily towards Asia (50%), followed by Europe (28%) and the United States (12%). However, coffee exports destined for the EU secure a higher value, which means that in absolute value terms the EU remains a major market. There are some signs that the uncertainty surrounding the EUDR has begun to influence trade flows. For example, Dallmayr, a german trader and roaster, has signalled a potential reduction in sourcing from Ethiopia, citing the costs of EU traceability requirements (Tagesanzeiger, 2023).

Ethiopia is widely recognised as the origin of Arabica coffee, and is the largest producer, exporter and consumer of coffee in Africa. The sector is characterised by diverse production systems, distinct coffee varieties and a value chain dominated by smallholders. Coffee production is based almost entirely on small plots of less than 1 hectare. Around 4 million smallholder (including household) farmers account for approximately 95% of total output (Petit, 2007; Worako et al., 2008; Urugo et al, 2025).

Production systems are heterogeneous but remain largely low-input and reliant on traditional practices. The predominant system is garden coffee, cultivated near homesteads under limited shade cover and accounting for around 50% of national production (Jima, 2020). Forest coffee contributes roughly 10%, semi-forest systems about 35%, and plantation systems only 5% of total output (Labouisse, 2008; Jima, 2020). Across all systems, coffee is typically shade-grown in small plots, often within forest or forest-like environments, contributing to its characterisation as forest-friendly. Such production systems are relevant for the potential generation of carbon credits.

Coffee in Ethiopia is processed into green coffee through either wet or dry methods before export. Wet processing yields higher-quality beans and better prices (Nure, 2008; Minten et al., 2014), but its adoption remains limited at around 30% owing to its labour-intensive nature and farmers' preference for drying cherries, which can be stored and sold later (Tamru and Minten, 2023). Most smallholders do not engage in value addition and instead sell coffee in unprocessed form, either as fresh red cherries or as dried cherries. Around 88.9% of farmers do not process their coffee (Tikuneh et al., 2023), reflecting structural constraints such as the need to deliver fresh cherries within 10–12 hours for wet processing, while dried cherries can be stored and processed later (Petit, 2007). These

dynamics matter in relation to the transmission of price benefits to producers.

3.1.2 Risks from climate change and policy response measures

The coffee sector plays a central role in the Ethiopian economy but is under increasing strain. Two main pressures are evident. First, climate change, alongside rising incidence of pests and diseases, could reduce yields and revenues, particularly in lower-altitude regions. Second, Ethiopia risks losing access to the EU market because of challenges in demonstrating compliance with the EUDR. Climate change is already affecting production systems and livelihoods. Evidence from shows longer dry seasons, increased prevalence of pests and diseases, and declining yields (Royal Botanic Gardens, Kew, and ECFF, 2017). These impacts are particularly severe given the dominance of smallholder farmers, who often lack the resources and knowledge required to adapt effectively to changing climatic conditions.

Several studies recommend relocating coffee production to higher-altitude areas as lower-altitude zones (below 1400–1500 m) become less suitable (Royal Botanic Gardens, Kew, and ECFF, 2017; Luca and Tsegaye, 2021). This transition is critical for maintaining sector resilience. However, relocation may create tensions with the EUDR, as newly cultivated areas could be classified as deforested. At the same time, expansion into new areas does not necessarily imply extensive forest loss, as coffee production depends on shade cover. In some cases, afforestation and reforestation may be required to establish suitable growing conditions. This creates potential opportunities to access carbon pricing mechanisms. However, while climate change introduces biophysical risks to production, the EUDR adds a distinct, policy-driven risk related to market access.

3.2 **Key findings: EUDR economic and financial risks**

Risks are influenced by the structure of the sector. The Ethiopian coffee value chain for export markets involves multiple actors with distinct roles, including producers, collectors, cooperatives, unions, processors, exporters, government agencies, financial institutions, associations and development partners. Although collectors are legally prohibited (Andersson et al., 2015), they remain influential, handling an estimated 57.4% of marketed coffee (Minten et al., 2019; Tamru and Minten, 2023). Their informal role weakens traceability, limits quality control and reduces transparency (Tadesse et al., 2020), creating risks of non-compliance with the EUDR. But it also reflects the nature of production within Ethiopia with smallholders' preference to dry cherries and store and sell later. Hence, whilst risks arise through informal marketing channels, these must be contextualised given the critical function that informal collectors and

traders provide for dispersed farmers. These services include the transportation of coffee and ability to access markets.[3]

Processors undertake hulling or washing before supplying coffee to exporters. Cooperative unions aggregate coffee from member cooperatives, carry out processing and export directly, and can enhance traceability and farmer returns (ICO, 2018). It is estimated that farmers sell around 40% of their surplus to cooperatives (Singh, 2022). This share could be higher because of the ability of cooperatives to secure higher prices, but is constrained due to liquidity constraints (*Ibid*., 2022). This is because cooperatives often pay on a delayed scheduled, whereas informal collectors and traders pay on delivery.

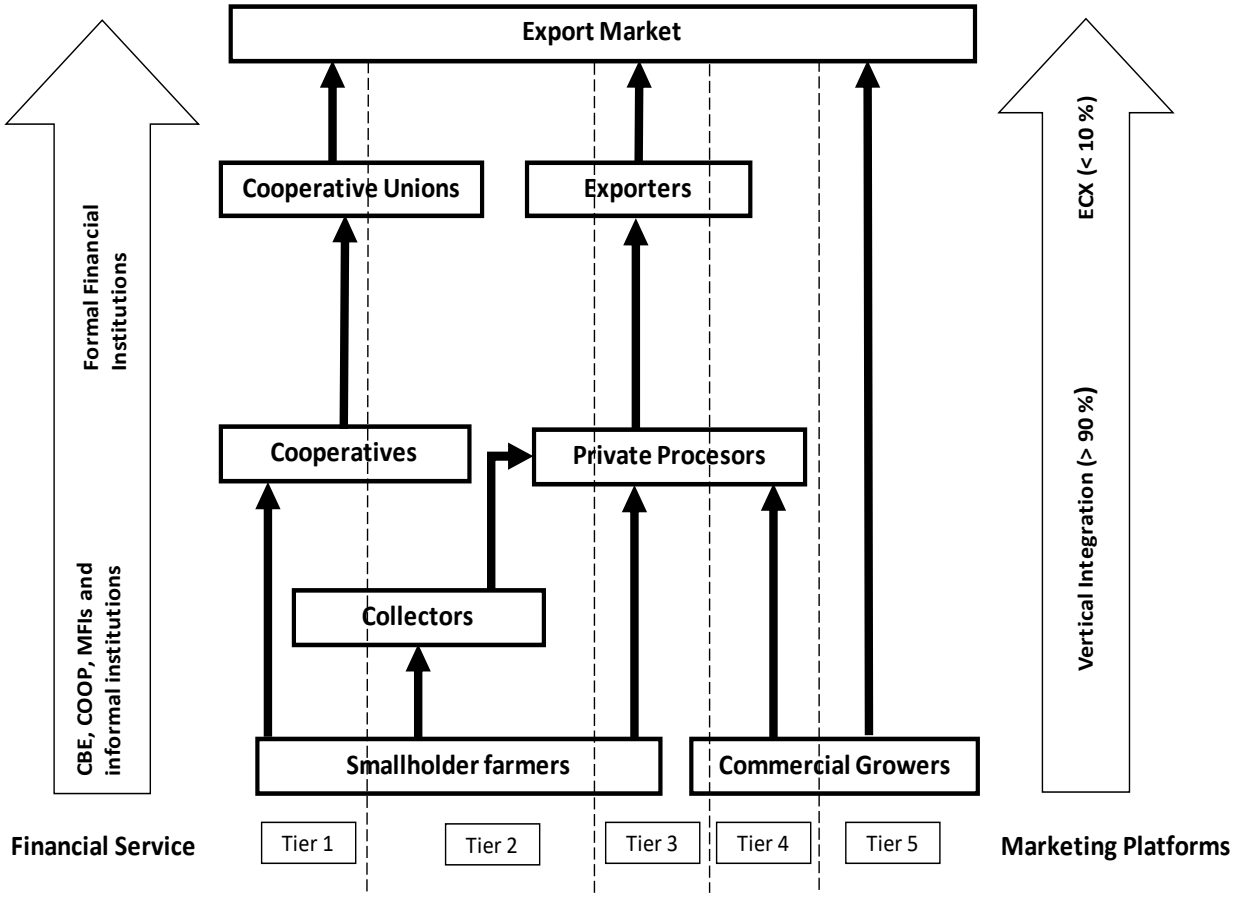
This means that cooperative channels primarily supply domestic markets and are estimated to represent less than 5% of direct agricultural exports (Minten et al., 2018; FAO, 2023). The export segment is dominated by private companies licensed to meet grading, quality and export requirements, including shipping requirements. However, the supply is predominating from smallholder production systems, given that plantation systems only account for around 5% of total output.

Financial linkages across the value chain are uneven and reflect structural constraints. At the production level, smallholder farmers rely predominantly on informal finance and microfinance institutions, as access to formal credit remains limited. Commercial growers have relatively better access to formal finance. Moving downstream, the role of formal financial institutions becomes more prominent. Processors and exporters depend largely on bank financing for working capital, trade finance and export operations.

Despite stronger linkages at these stages of the value chain, a persistent mismatch between credit demand and supply continues to constrain the sector's capacity to scale, upgrade and comply with regulatory requirements. These linkages also create channels through which risks in the coffee supply chain may be transmitted to financial institutions. A notable example is the Cooperative Bank of Oromia (COOP), one of the sector's main financial providers alongside the Commercial Bank of Ethiopia (CBE). The Oromia Coffee Farmers' Cooperative Union (OCFCU) is COOP's largest shareholder and co-founded the bank in 2006 (Fairtrade International, nda). The union has also taken a step towards carbon trading to diversify its income streams and to support climate change mitigation, reflecting the potential for coffee farms to function not only as agricultural land but also as carbon sinks with measurable sequestration capacity.[4]

[3] See also World Bank (2025).
[4] See https://www.oromiacoffeeunion.com/

Figure 2 Export coffee value chain map for Ethiopia



Source: Authors based on information from KII

Ethiopia's coffee export system can be understood through five supply chain tiers with varying levels of traceability. Tier 1 involves cooperative unions sourcing from member farmers, which can provide for relatively strong traceability through direct procurement. Tier 2, the dominant channel, relies on private exporters sourcing through processors and informal collectors, this can create challenges for traceability and legal compliance. Tier 3 includes certified or speciality coffee produced under contract farming arrangements, where transactions are documented and compliance costs are borne by exporters, resulting in higher traceability. Tier 4 covers coffee from commercial growers supplied through processors to exporters, also with relatively strong traceability. Tier 5 represents vertically integrated exporters managing their own farms, processing and export operations, constituting the most traceable supply chain.

3.2.1 EUDR preparedness

The Government of Ethiopia has initiated a coordinated response to support compliance with the EUDR, led by the Ethiopian Coffee and Tea Authority (ECTA) in collaboration with the Ministry of Finance and Ministry of Agriculture. A three-year National Action Plan has been developed, with an initial focus on farm-level data collection, supply chain digitalisation and the establishment of a national

database to support compliance and manage data. A National Steering Committee, established in early 2024, coordinates these efforts. A central priority is improving traceability through the mapping of smallholder plots and integration the integration of data systems (e.g. related to geolocation and therefore to support traceability).

On geolocation, responsibilities are shared between government and private actors, with exporters and processors leading data collection. At the same time, ECTA is actively compiling geolocation data and linking it to national systems. According to the European Forest Institute (EFI) (2025), ECTA is expanding plot-level data collection and integrating it into a centralised national database. This includes the distribution of global positioning system (GPS) devices and digital tools at district level. By July 2024, ECTA had compiled data covering approximately 200,000 hectares out of 860,000 coffee hectares (23%) (FAOSTAT 2026).[5] The government is also developing a unified system to collect, validate and verify geolocation data (GPS points or polygons), and plans to mandate submission of such data by cooperatives, exporters and regional authorities to ensure consistency and compliance.

ECTA introduced the Coffee Market Information Management System (CMiMS) in 2022, with support from the German Agency for International Cooperation (GIZ), to track coffee movements between key market nodes. This system has recently been upgraded to the Ethiopian Coffee Traceability Management System (ECTMS) to align with EUDR requirements. The upgraded system tracks each lot of coffee from the production plot to export, including all processing stages. To limit informal trade and ensure data completeness, production estimates are generated at plot level, and marketed volumes must correspond to these estimates.

On legality, progress has been made in land registration and broader compliance measures. Cadastral systems are being deployed in coffee-producing areas to support land use verification, which entail spatial mapping (boundaries of land parcels) with legal and administrative records (ownership rights and land use). According to EFI (2025), the Ministry of Agriculture issued certificates for 31 million plots (out of an estimated 50 million agriculturally productive plots in Ethiopia) in the past five years. Of these plots, 27 million are recorded in a national digital information system. The government plans to complete second-phase certification and database development within five years.

In parallel, efforts are underway to address child labour in the sector. ECTA, in collaboration with GIZ and CARE Ethiopia, has launched a five-year Child Labour Strategy, recognising that the issue remains linked to structural factors such as poverty and limited access to education, as well as broader socioeconomic and cultural practices. This is because the EUDR establishes labour rights as one of the

[5] It should be noted that, at that time, not all exporters had managed to hand over their data to ECTA.

mandatory legal domain criteria, which means that for a product to meet the legality requirements it must comply with all national and local laws in effect in the country of origin (Article 2 (40)). Ethiopia has comprehensive constitutional and legislative frameworks governing child labour and ratified core international treaties.[6]

Private sector efforts

Private sector preparations for compliance with the EUDR are uneven. For example, exporters express a clear interest in maintaining access to EU markets, but their level of compliance depends on whether buyers are willing to pay a premium to offset the costs. If such incentives are insufficient, exporters indicated a willingness to redirect trade towards alternative markets such as the United States, Canada and China. This creates a tangible risk of trade diversion, contingent on whether compliance costs can be recovered.

Data collection related to geolocation and traceability to support legal compliance are ongoing but vary across actors. Exporters rely on local staff or hired firms, with costs estimated at $4–7 per plot for data collection and $5–12 per plot for verification. Compliance is more advanced among cooperative unions and sustainably produced and certified exporters, who are already familiar with similar requirements under organic or Fairtrade schemes. In contrast, many private exporters are at earlier stages or have yet to begin data collection.

Larger and mid-sized exporters with established EU market links are generally more proactive, but even they have not fully covered all suppliers. Instead, they prioritise farmers already integrated into certification schemes or contract farming arrangements, focusing on known and trusted suppliers to minimise risk. This selective approach increases the likelihood that less-connected smallholders may be excluded from compliant supply chains.

3.2.2 Remaining EUDR risks and transmission channels

Three main risks affect compliance with the EUDR for Ethiopia's coffee sector. First, geolocation requirements impose high costs (see Box 1). Collecting and verifying data across millions of fragmented smallholder plots is time-consuming and expensive. As a result, exporters adopt selective strategies, prioritising known and trusted suppliers while excluding others. This risk-averse approach is estimated to affect 10–20% of smallholder farmers who may be excluded from the EU market. Even with these measures, compliance costs remain significant and so continued access to EU markets therefore depends on buyers' willingness to share compliance costs or provide a price premium.

[6] These include Convention No. 138 (Minimum Age), ILO Convention No. 182 (Worst Forms of Child Labour), and the UN Convention on the Rights of the Child (UNCRC).

Second, traceability represents the most critical constraint. Ethiopia's smallholder-based system requires aggregation of coffee from multiple sources, making plot-level traceability difficult (see, also, Box 1). This challenge is compounded by the widespread role of informal collectors, who handle a large share of supply. Although ECTA has developed the ECTMS digital system, this is not yet fully operational, and its effectiveness remains uncertain. Weak traceability may reduce demand from EU buyers and increase market exclusion risks.

Third, legality issues persist. Land registration remains incomplete, with many coffee farmers lacking formal title or use certificates (EFI, 2025). Child labour is also a concern, even though this falls within the mandatory legal domain as opposed to actual tracing across the supply chain. What is far more significant is the differences in land classification which creates regulatory ambiguity: forest and semi-forest coffee systems are classified as protected forest land domestically, whereas under **Article 2(3) and 2(4) of the EUDR (Regulation (EU) 2023/1115)**, any land used for coffee production is categorized as **agricultural land**. Consequently, under **Article 2(1)**, active management or expansion in natural forests risks being interpreted as the conversion of forest to agricultural use (i.e., deforestation) after the December 31, 2020 cut-off date. This reflects profound differences in how systems of coffee production are understood by EU regulators given that agroforestry practices are integral to forestry management, as opposed to destruction.

Box 1 Cooperative unions and EUDR compliance risks

Sidama Coffee Farmers' Cooperative Union

Sidama Coffee Farmers' Cooperative Union exports 50–60% of its coffee to the EU, making it highly exposed to EUDR requirements. Its members are long-established smallholders using garden coffee systems and have over 25 years of Fairtrade and Organic certification.

Compliance challenges are primarily linked to traceability and cost. Smallholder fragmentation requires product aggregation, limiting plot-level traceability. Geolocation data collection is costly, with the EUDR expected to increase certification costs by 20%.

The union has already excluded 40% of its member cooperatives from EU exports. Only 18 cooperatives are currently covered by geospatial data systems, owing to compliance constraints. Additional pressure comes from EU Organic requirements, with auditing costs increasing from €1,000 to €7,000 per cooperative per year, contributing to a tenfold rise in total certification costs. As a result, only 12 cooperatives remain under EU Organic certification.

Overall, the union estimates that up to 20% of its EU exports could be lost, with half of this directly linked to the EUDR. Reduced

demand linked to traceability constraints may further increase exclusion risks.

Oromia Coffee Farmers' Cooperative Union
The OCFCU, with over 557,000 member farmers, exports 35% of its coffee to the EU. Its scale and diversity allow it to supply a wide range of coffee types.

EUDR preparedness is partial. Geolocation data has been collected for 92,000 farmers (16.5% of members), prioritising certified cooperatives and EU-oriented supply chains. The remaining uncovered segment includes farmers responsible for approximately 20% of EU exports, **creating a risk of exclusion estimated at 20%.**

The union plans to expand coverage by collecting data from an additional 100,000 farmers. However, compliance costs remain a major constraint. Participation in EU Organic certification has declined sharply from 26 to six cooperatives owing to rising costs.

Short-term support from EU buyers has partially mitigated these challenges, including financing auditing and verification costs. The union is also diversifying income streams, **notably by starting carbon trading activities, leveraging the forest stock of its coffee systems.** In parallel, it is expanding into value-added activities such as coffee roasting.

Source: KII

3.2.3 Economic and financial risks

While smallholder coffee producers do not typically maintain formal linkages with the financial system, processors and exporters do. Consequently, cooperatives and actors linked to them may be affected by financial transmission mechanisms. Microfinance institutions (MFIs) and commercial banks like CBE and COOP are the major finance providers for smallholder production; COOP dedicates around 40% of its loan portfolio to cooperatives involved in coffee and cereal businesses (World Bank, 2025). The OCFCU is COOP's largest shareholder (Fairtrade International, nd). Overall, 20–30% of its loan portfolio is linked to financing for coffee exports.

However, as outlined in the conceptual framework, broader macroeconomic transmission channels must also be considered. For example, if foreign exchange earnings from were to drop by around 8.5% - under a severe disruption scenario arising from exclusion risks linked to geospatial data and traceability - explored in the following sub-section, this could affect institutions with a large share of foreign currency assets and liabilities. Inflationary and foreign exchange pressures could increase operational expenses.

Economic risks
The most immediate risk is the partial exclusion of Ethiopian coffee from the EU market. Although the share of Ethiopian coffee that goes

to the EU market has been declining over the past decade as Ethiopia diversifies its export markets, the EU remains structurally an important market. Although the exact share of Ethiopian coffee at risk of EU exclusion under the EUDR is not yet known, primary data from this study provides early indicative evidence. KIIs with the Sidama Coffee Farmers' Cooperative Union suggest that up to 20% of EU-destined exports are at risk because of geolocation constraints. Thus, non-compliance with the EUDR could result in maximum of 20% risk of exclusion because of geospatial data. Additional risks arise because of challenges with traceability systems. For example, based on information from Tamru & Minten (2023), and Minten et al. (2019), it is estimated that around 57.4 per cent of the coffee from Ethiopia is collected from farmers by local collectors or outside of the legally designated marketplaces.[7]

The potential macroeconomic implications arising from market exclusion are significant.[8] The EU accounts for around 30% of Ethiopia's coffee export earnings and coffee represents approximately 35% of total merchandise export earnings. This implies that about 11% of export earnings depend on coffee exports to the EU. Estimated exclusion risks – up to 20% from geolocation constraints and 57% from traceability issues – translate into potential foreign exchange losses of 2.2% to 6.3% and up to 8.5% in a worst-case scenario. Given existing foreign currency shortages and high inflation, reduced export revenues could further weaken the balance of payments, contribute to currency depreciation and increase import costs. Table 1 summarises some of these challenges, although it is important to note that this does not take account of the possibility of selling to alternative markets and redirecting non-compliant exports.

Table 1 Summary of remaining EUDR challenges and possible transmission channels

Mitigation factors	Remaining EUDR challenges	Risk and transmission channels
Geolocation		
Ongoing compilation of geolocation data and integration of national database and a centralised system for validating geolocation	• High cost and time of data collection • Fragmented smallholder plots • Unlikeliness of having covered all harvested area	• Exclusion of farmers without data • ~10–20% exclusion risk • Financial transmission risks
Traceability		
• Digital systems (ECTMS) under development	• Strong reliance on informal collectors.	• Risk of export exclusion (up to 57%)

[7] See Table A1 in the Annex for the estimation process.

[8] These transition risks have been highlighted by Keane et al., (2025) which draws on the conceptual frameworks of the Network for Greening the Financial System and the work of the Centre for Economic Transition Expertise (CETEx)—hosted at the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and Political Science (LSE).

Mitigation factors	Remaining EUDR challenges	Risk and transmission channels
• Lot-level tracking being introduced	• Incorrect aggregation may lose traceability • System not fully operational	• Income losses for farmers
Legality		
Progress on land verification (31 million certificates out of 50 million) and ongoing efforts against child labour	• Incomplete land certification • Uncertainty about documentation or means to proof compliance	• Inability to prove legal compliance • Exclusion from supply chains

Source: Authors

Translating these exclusion risks into revenue terms, potential losses of EU-destined coffee revenue range from approximately $160 million in a conservative scenario (20% exclusion) to $453 million in a severe scenario (57% exclusion). To translate these potential coffee export revenue losses into a share of GDP, we can benchmark them against Ethiopia's recent nominal Gross Domestic Product (GDP), which stands at approximately $126.36 billion in 2025.[9] This estimation is broadly in line with previous estimations in Keane et al., (2024). [10]

Even if not all of this revenue were lost, as some volume would be redirected to alternative markets, there would still be a loss. This is because the EU market pays a premium for Ethiopian specialty coffee. A recent estimate suggests premium coffee commands a price premium of over 26% on international markets (Minten et al., 2018; Tamru et al., 2024). Applying this as a proxy for the EU-to-alternative-market price discount, even if Ethiopia manages to redirect all of the coffee exports that are excluded from the EU market to the Asia market, net revenue losses after diversion still range from approximately $42 million (conservative) to $118 million (severe). These estimates represent first-round effects only. The upstream multiplier effects on rural incomes, employment and domestic demand would amplify the total economic impact considerably.

These losses in revenue will have macroeconomic consequences. The export revenue shock arising from non-compliance with the EUDR would transmit through several interconnected macroeconomic channels, including the trade balance, the current account, foreign exchange reserves and inflation.

Ethiopia’s current account is characterised by a persistent structural deficit, estimated at around $2 billion as of 2024, largely driven by a substantial trade imbalance (Moody’s Analytics, nd), Even where

[9] See: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=ET
[10] This analysis defined market exclusion scenarios and used Computable General Equilibrium modelling.

diversion is possible, the associated price discounts would likely result in a net deterioration of the trade balance. This could further exacerbate existing structural pressures.

The risk of exclusion from the EU market would also have important implications for foreign exchange reserves and exchange rate stability. Ethiopia's foreign exchange reserves were estimated at approximately $4.4 billion at the end of the 2025 fiscal year, equivalent to approximately 3.7 months of imports (Nigussie, 2026).

A reduction in hard currency inflows would intensify depreciation pressures on the Ethiopian birr (ETB), which has already undergone managed depreciation in recent years. In 2025 alone, Ethiopia reportedly spent $1.35 billion to stabilise the currency against the United States dollar (Ndlovu and Tadese, 2026). This represents around a quarter of its central bank reserves. Currency depreciation raises the domestic cost of imports, adding to already elevated inflation levels. KIIs with commercial banks indicate that foreign exchange availability is already a binding constraint on trade finance. As such, additional foreign exchange pressures stemming from EUDR-related export disruptions would amplify existing vulnerabilities rather than introduce entirely new ones.

Financial risks

Beyond the macroeconomic pressures outlined above, the EUDR introduces a distinct set of financial risks that propagate along Ethiopia's coffee value chain. These risks are shaped by the structure of the sector, in which most smallholder farmers lack direct access to formal financial services. Instead, formal banking relationships are concentrated among processors, exporters, cooperatives and cooperative unions. As a result, the financial system's exposure to EUDR-related risks is largely indirect, transmitted upstream as farmers' inability to demonstrate compliance affects the revenues, repayment capacity and collateral values of the actors with whom banks directly engage.

Coffee supply chain actors rely heavily on seasonal credit from commercial banks to finance procurement and operations. This credit is typically extended against expected receivables from buyers and secured by the value of coffee stocks as collateral. Although farmers themselves are not direct borrowers, their potential exclusion from EUDR-compliant supply chains creates cascading financial stress. Cooperative unions that pre-finance member cooperatives at harvest face parallel exposure if downstream sales volumes or prices fall short of expectations.

Among financial institutions, COOP appears particularly exposed to this transmission mechanism. Unlike most Ethiopian commercial banks, COOP allocates a substantial share of its loan portfolio, estimated at around 40%, to cooperatives engaged in coffee and cereal trading. This concentration is closely linked to its ownership structure, with the OCFCU as its largest shareholder. KIIs suggest

approximately 20–30% of COOP's total loan portfolio is tied specifically to coffee export financing.

Other financial institutions, including the CBE and MFIs, also play important roles in financing the sector, though their more diversified portfolios mitigate individual exposure. Nevertheless, MFIs may face rising non-performing loan ratios if income shocks at the farmer and intermediary levels translate into repayment difficulties.

There are risks for both exporters and processors, that the EUDR creates a bifurcated market in which compliant coffee commands a premium, while non-compliant coffee is redirected to lower-value markets. Exporters holding inventories contracted at EU premium prices face mark-to-market losses if consignments fail compliance checks at verification. At the same time, the Ethiopia Commodity Exchange (ECX) offers limited price discovery and liquidity for diverted volumes, increasing exposure to price volatility for actors unable to rapidly secure alternative buyers.

There could also be a liquidity risk and disruption of seasonal finance. Seasonal credit is central to the functioning of Ethiopia's coffee economy, with financing flows closely aligned to the harvest cycle and dependent on expected payments from EU buyers. Uncertainty surrounding EUDR compliance risks disrupting this cycle at multiple points. Banks may respond by shortening loan tenors or tightening credit conditions in anticipation of heightened risk. Cooperative unions, as key intermediaries between formal finance and smallholder farmers, are particularly vulnerable. Reduced access to credit at this level directly constrains the pre-financing available to cooperatives and farmers during harvest. Evidence from KIIs suggests market participants are already adjusting, with some EU buyers offering less favourable forward contract terms in anticipation of enforcement risks.

3.3 Complementary incentive mechanisms for avoiding deforestation

Complementary incentive mechanisms are essential to address the indirect drivers of deforestation in Ethiopia's coffee sector. Among these, coffee price-based incentives are particularly central, as coffee income is likely to remain the primary and most reliable revenue source for producers. Environmental pricing mechanisms – such as carbon payments or payments for ecosystem services – could therefore be understood as complementary rather than substitutive.

For these incentives to be effective, they must operate as part of a coordinated package that monetises different environmental attributes. For example, carbon credits and EUDR adherence both require monitoring, reporting and verification systems, which are costly. This therefore raises the question as to whether there is scope for more integrated systems to support compliance and demonstrate

the delivery of environmental goods and services from avoided deforestation.

This requires ensuring integrity in design, particularly by avoiding double counting of environmental outcomes. While stacking payments for distinct ecosystem services is legitimate, each mechanism must correspond to a clearly defined and non-overlapping benefit. In this sense, the effectiveness of incentive systems depends not only on their individual design but also on how they are combined within a coherent framework.

3.3.1 Price incentives

Price management plays a critical role in shaping both economic outcomes and environmental incentives. On the one hand, prices must provide adequate remuneration to producers; on the other, they should incentivise sustainable production practices. This creates a tension, as higher prices – if not conditioned by sustainability criteria – may also increase incentives for agricultural expansion and deforestation.

In the coffee market, prices are anchored to international benchmarks, particularly Arabica futures, and are therefore largely determined downstream within a market structure characterised by oligopsony. Millions of smallholder farmers sell to a relatively limited number of buyers, which reinforces the position of producing countries as price takers (Ghoshray and Mohan, 2021; Grabs and Ponte, 2019; UNCTAD, 2018). Export prices are further adjusted through differentials reflecting quality, origin or certification, yet these premiums are transmitted only partially to producers. Evidence suggests that less than one-third of quality premiums reach farmers (Minten et al., 2018). At the farm-gate level – where deforestation decisions are made – prices are derived from these international benchmarks after deducting costs, margins and inefficiencies. Weak infrastructure, limited access to market information and the role of informal collectors further reduce farmers' bargaining power and shape price formation in practice.

As a result, price transmission along the value chain remains weak. Producers are estimated to receive around 60% of the export price (World Bank, 2022), reflecting structural constraints such as market fragmentation, information asymmetries, weak links between quality and remuneration, and inefficiencies in cooperative systems. In addition, liquidity constraints lead many farmers to prioritise immediate cash needs, with evidence showing that cooperative members sell less than half of their marketable surplus through cooperatives (Singh, 2022).

More broadly, the absence of international price stabilisation mechanisms further reinforces price volatility. Unlike other sectors, agricultural commodities lack coordinated supply management, owing to the highly fragmented nature of production – spanning more

than 70 producing countries (ICO, nd) – which makes collective action difficult. While recent initiatives in other sectors, such as G7 critical minerals, have explored guaranteed price corridors through long-term agreements, these models are not easily transferable to coffee markets, which are structurally more dispersed. Following the collapse of the International Coffee Agreement, because of quota disputes and diverging interests (Ghoshray and Mohan, 2021), coffee prices have remained largely market-driven and increasingly financialised.

Beyond minimum prices, certification schemes have also addressed sustainability premiums. For instance, the Rainforest Alliance provides a direct negotiable premium to be paid to the producer in monetary payments upon compliance with sustainability standards (Rainforest Alliance, 2024). Fairtrade International also ensures higher prices and premiums are paid to cooperatives and producers (Fairtrade International, 2025). Despite best endeavours, however, the scope of such schemes remains limited. In the case of Ethiopia, no more than 5% of Ethiopian coffee exports is certified by such sustainability certification systems (Worku, 2023; Minten et al., 2018). To make these incentives more influential, they would need to be more scalable and to improve the transmission of benefits to producers.

Payments for environmental goods are services that can provide an additional income stream for coffee producers. However, revenues from carbon credits or ecosystem services alone are unlikely to offset the underlying economic drivers of deforestation.

Environmental incentives must be aligned with the characteristics of different coffee production systems, as the ecosystem services they provide vary. In Ethiopia, as discussed, garden coffee systems account for approximately 50% of production, semi-forest systems 35%, forest systems 10% and plantation coffee around 5%. The harvested coffee area is estimated at around 860,000 hectares (FAOSTAT 2026) – approximately 0.8% of the country's total land area – although this figure may not fully capture semi-forest and forest systems.

Carbon removals may be more suitable for garden systems, while emissions reduction may suit better semi- and forest systems. While complementary, carbon payment strategies in coffee systems should prioritise the protection of existing agroforestry, as avoided carbon losses exceed the sequestration gains from tree planting (Pappo et al., 2025).

Carbon credits

Regardless of the market, carbon credits should meet high-integrity standards. The rationale for their analysis is that they have been found to increase the overall profit of farmers (Singh et al., 2024), including through community-based carbon credits projects (Senadheera et al., 2019).

Coffee production systems can sequester carbon (Walsh et al., 2025). Forest and semi-forest systems do so by protecting, enriching and managing existing tree cover; garden systems can increase tree density and restore degraded coffee landscapes. Building on existing practices can create synergies with Ethiopia's Green Legacy Initiative if they support agroforestry interventions (Terefe et al., 2025).

However, current carbon credit schemes have their limitations, which include social, economic, environmental and institutional constraints (Gnana Xavier et al., 2026). Key challenges include the exclusion of smallholders, high costs of monitoring, reporting and verification (MRV) and difficulties related to additionality and credible frameworks. While not all challenges can be detailed, scaling carbon credit systems requires aggregation of smallholders. This therefore requires group-based MRV systems and transparent governance structures to ensure fair distribution of benefits. Cooperatives can play a key role in aggregating smallholders and managing common compliance and governance systems.

Results-based payment systems

In addition to carbon removal activities, Ethiopia can draw on its existing forest and semi-forest coffee systems to generate emission reductions from avoided deforestation. This requires establishing a baseline scenario of expected forest loss and quantifying reductions against it. The avoided emissions can then be monetised. While such reductions can, in principle, generate carbon credits, they are most commonly implemented under REDD+ frameworks. These may operate at either project or jurisdictional level. Smallholders can access these benefits only if they are integrated into one of these schemes.

Payments are made after emission reductions are verified. The Oromia Forested Landscape Program is an example of such an approach in Oromia region. It covers forest landscapes that include agroforestry systems (World Bank, 2021) and therefore overlaps with coffee production areas. Benefits are allocated through a benefit-sharing plan, which can result in producers receiving indirect and diffuse economic gains rather than direct payments.

Payments for ecosystem services

Payments for ecosystem services provide an additional pathway to monetise ecosystem functions beyond climate mitigation. Well-functioning ecosystems deliver services such as watershed regulation and biodiversity conservation. These mechanisms can enhance short-term cash flow and encourage the adoption of agroforestry practices (FAO, 2022). In the Ethiopian context, forest and semi-forest coffee systems are relatively well positioned to benefit, given the range of ecosystem services they already sustain. Promoting voluntary recognition of these services would be reflected in price premiums. Table 2 provides a summary of possible

environmental incentives and financial returns for Ethiopian coffee production.

Table 2 Potential incentives for Ethiopian coffee systems

Environmental incentives	Potential monetised environmental services	Ethiopian coffee production system	Limitations
Carbon credits	• Removal credits: agro-forestry and soil carbon sequestration • Restoration of degraded coffee landscapes	• Garden systems with increased tree density • Enriched semi-forest systems	• Adequate finance to compensate potential trade-offs. • Complex MRV systems • Additionality – avoid double counting • Lengthy payment of benefits
Results-based payment services (REDD+)	Avoided emissions: avoided deforestation in embedded or adjacent to natural forest	Protected forest and semi-forest systems, e.g. Oromia Forested Landscape Program	
Other payment of ecosystem services	Biodiversity conservation, watershed protection, soil conservation	Mainly forest and semi-forest systems	

Source: Authors

4 Findings and recommendations

The EUDR pursues legitimate climate mitigation and forest conservation objectives. However, its design may impose disproportionate burdens on countries such as Ethiopia, where coffee production is deeply integrated into culture, socioeconomic and environmental systems. Because coffee production is not a major driver of deforestation, there is currently a misalignment between regulatory risk and local production realities.

Our findings suggest Ethiopia's exposure to EUDR-related risks is potentially significant, as coffee underpins export revenues and rural livelihoods. As a result, compliance constraints which reduce market access will have broader economic and social effects, particularly for smallholders. However, the analysis also suggests risks arising from financial exposure and related transmission that deserve further attention.

While substantial progress has been made to build capacity to demonstrate compliance, challenges persist across all EUDR pillars. For example, geolocation remains incomplete, with only around a quarter of plots mapped as of mid-2024. Because the data collection is being conducted in a decentralised manner, the total figure is not yet available. Traceability systems exist but are not yet fully reliable, especially where informal collectors are involved. Legality compliance is further constrained by gaps in both regulatory substance and proof mechanisms.

These challenges translate into material risks of exclusion. Estimates suggest geolocation gaps could affect up to 20% of producers, while traceability issues could impact up to 57%. Legality constraints may compound these risks. The combined impact of these dynamics suggests reduced market access and income loss. Hence, policy responses should prioritise supporting compliance and minimising EUDR-related negative spillovers while strengthening the overall incentives for more sustainable production.

The initial risks of a "Green Squeeze" in Ethiopia were assessed for the coffee sector in 2024 (Keane et al., 2024). Despite subsequent regulatory delays to the implementation of the EU Deforestation Regulation (EUDR)—which postponed binding enforcement for large operators to late 2026 and for small enterprises to mid-2027 (European Parliament & Council, 2024)—as well as the best efforts

of policymakers, development partners, and value chain actors, compliance risks remain high. Structural constraints in smallholder aggregation and challenging supply chain traceability suggests risk of market exclusion from the EU market remain significant as the phased EUDR deadlines take effect. Some of the more specific recommendations arising from this analysis are as follows:

- Reduce risks of EUDR exclusion
  - Work with and support more informal collectors to understand the risks of exclusion from the EU market; similarly, support smallholders with limited market access options understand the benefits of more organised sales within cooperatives, including through easing up liquidity constraints.
  - Engage with EU authorities to clarify acceptable legality evidence. This would allow Ethiopia to prioritise feasible institutional adjustments rather than scaling complex certification systems nationwide. This could include possibly seeking a more country specific approach and greater flexibility with respect to the application of the EUDR.[11]
- Develop complementary environmental pricing mechanisms and incentives
  - Productivity and sustainability should be addressed jointly, which could form part of broader resilient value chain development between exporters and importers. For example, it may be possible to identify baseline environmental services already provided by different production systems. In turn, carbon credits or results-based payments could be aligned with these existing practices.
  - Improve the functioning of cooperatives to support an increase in the proportion of coffee sales marked through these channels (as opposed to more informal channels). This could include through increasing liquidity and addressing financial constraints, hence helping to reduce transaction costs and risks of non-compliance. It could also be supported through establishing clear and transparent benefit-sharing mechanisms, e.g. upfront financing where possible and simple rules for distributing or reinvesting premiums.

[11] For example, there are reports that Egypt managed to secure a two year extension from the European Union with regards to the application of the Carbon Border Adjustment Mechanism (see: https://africaoilgasreport.com/2026/01/energy-transition/egypt-gets-a-two-year-extension-from-eu-to-decarbonise/#:~:text=Egypt%20Gets%20a%20Two%20Year%20Extension%20from,on%20the%20oil%2C%20gas%20and%20energy%20landscape).

References

Crippa, M., Guizzardi, D., Pagani, F., Banja, M. et al. (2025) *GHG emissions of all world countries – 2025 report*. Brussels: Publications Office of the European Union.

EFI – European Forest Institute (2025) 'Coffee insight: Ethiopia preparedness check for EUDR compliance'. Joensuu: EFI.

European Union (2024) 'Regulation (EU) 2024/3165 of the European Parliament and of the Council of 18 December 2024 amending Regulation (EU) 2023/1115 as regards provisions relating to the date of application', *Official Journal of the European Union*, L series, 20 December. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R3165 European Union (2023) '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, *Official Journal of the European Union*, L 150, 9 June, pp. 206–247. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32023R1115

Fairtrade International (2025) 'Coffee standards for small-scale producer organizations' (https://www.fairtrade.net/en/why-fairtrade/how-we-do-it/standards/who-we-have-standards-for/standards-for-small-scale-producer-organisations/coffee.html).

Fairtrade International (nda) 'Oromia Coffee Farmers' Cooperative Union, Ethiopia'. Accessed 15 April 2026 (https://www.fairtrade.net/us-en/why-fairtrade/impact/impact-stories/oromia-coffee-farmers-cooperative-union-ethiopia.html).

Fairtrade International (ndb) 'Minimum price and premium information'. Accessed 15 April 2026 (https://www.fairtrade.net/standard/minimum-price-info).

FAO – Food and Agriculture Organization of the United Nations (2022) *Payments for ecosystem services and sustainable agriculture*. Rome: FAO.

FAO (nd) 'FAOSTAT Statistical Database' (https://www.fao.org/faostat/en/#data/QCL).

FDRE – Federal Democratic Republic of Ethiopia (2021) 'Ethiopia's Updated Nationally Determined Contribution'. UNFCCC. Addis Ababa: FDRE.

FDRE (2024) 'Ethiopia First Biennial Update Report. UNFCCC. Addis Ababa: FDRE.

Ghoshray, A and Mohan, S (2021) 'Coffee price dynamics: An analysis of the retail-international price margin'. *European Review of Agricultural Economics* 48(4): 983–1006.

Gnana Xavier, J., Mohanraj, K. and Arivelarasan, T. (2026) 'Global evidence on status, determinants, impact and barriers to adoption of agricultural carbon credits: A systematic literature review using bibliometric TCCM and ADO framework'. *Environmental and*

Sustainability Indicators 30: 101156 (https://doi.org/10.1016/j.indic.2026.101156).

Grabs, J., & Ponte, S. (2019). The evolution of power in the global coffee value chain and production network. *Journal of Economic Geography*, *19*(4), 803–828. https://doi.org/10.1093/jeg/lbz008 Cited by: 289

ICO (2018) Gender Equality in the Coffee Sector; An insight report from the International Coffee Organization. London, UK https://www.ico.org/documents/cy2017-18/icc-122-11e-gender-equality.pdf Jima, D. (2020) 'Coffee production systems in Ethiopia: Structure, productivity and sustainability'.

Keane, J., Arce, B., Ayele, Y. and Raga, S. (2025) 'Macroeconomic and financial risks transmitted by the European Union deforestation regulation: A focus on the coffee value chain in Honduras'. Discussion Paper. London: CETEX at LSE (https://cetex.org/publications/macroeconomic-and-financial-risks-transmitted-by-the-european-union-deforestation-regulation-a-focus-on-the-coffee-value-chain-in-honduras/).

Keane, J., Agarwal, P., Mendez Parra, M., and Debowicz, D. (2024). *Avoiding a 'Green Squeeze': Supporting Least Developed Countries Navigate New Greening Trade Measures*. ODI Report. London: ODI.

Labouisse, J. P. (2008) 'Coffee production systems in Ethiopia'. Montpellier: CIRAD.

Luca, A. and Tsegaye, A. (2021) 'Climate change impacts on Ethiopian coffee production and adaptation strategies'.

Minten, B., Tamru, S., Kuma, T. and Nyarko, Y. (2014) 'Structure and performance of Ethiopia's coffee export sector'. Washington, DC: IFPRI.

Minten, B., Dereje, M., Engida, E. and Tamru, S. (2018) 'Tracking the quality premium of certified coffee: Evidence from Ethiopia'. *World Development* 101: 119–132.

Minten, B., Dereje, M., Engida, E. and Tamru, S. (2019) 'Coffee value chains in Ethiopia: Structure, conduct and performance'. *World Development* 120: 1–13.

Moody's Analytics (nd) 'Ethiopia current account balance'. Accessed 28 May 2026 https://www.economy.com/ethiopia/current-account-balance).

Ndlovu, R. and Tadese, F. (2026) 'Ethiopia spent $1.35 billion defending currency even before war'. Bloomberg, 17 March (https://www.bloomberg.com/news/articles/2026-03-17/ethiopia-spent-1-35-billion-defending-currency-even-before-war).

NFGS – Network for Greening the System (2024) 'Nature-related financial risks: A conceptual framework to guide action by central banks and supervisors'. Technical Document, September (www.ngfs.net/system/files/import/ngfs/medias/documents/ngfs_conceptual-framework-on-nature-related-risks.pdf).

Nigussie, M. (2026) 'Ethiopia risks reserves in race to stabilise currency, Bloomberg reports'. Birr Metrics, 17 March (https://birrmetrics.com/ethiopia-risks-reserves-in-race-to-stabilise-currency-bloomberg-reports/).

Nure, D. (2008) 'Mapping quality profiles of Ethiopian coffee by origin'.

OEC – Observatory of Economic Complexity (2026) 'Ethiopia coffee export data' (https://oec.world).

Pappo, E., Cook-Patton, S., Beillouin, D., Cardinael, R. et al. (2025) 'Carbon payment strategies in coffee agroforests shape climate and biodiversity outcomes'. *Communications Earth & Environment* 6: 661 (https://doi.org/10.1038/s43247-025-02574-w).

Petit, N. (2007) *Ethiopia's coffee sector: A bitter or better future?* Washington, DC: World Bank.

Rainforest Alliance (2024) 'We're launching version 1.4 of our sustainable agriculture standard: Here's what's changing' (https://knowledge.rainforest-alliance.org/docs/were-launching-version-14-of-our-sustainable-agriculture-standard-heres-whats-changing).

Rapsomanikis, G. (2015) 'The economic lives of smallholder farmers: An analysis based on household data from nine countries'. Rome: FAO.

Royal Botanic Gardens, Kew, and ECFF – Environment & Coffee Forest Forum (2017) 'Coffee farming and climate change in Ethiopia: Impacts and adaptation pathways'.

Senadheera, D.K.L., Wahala, W.M.P.S.B. and Weragoda, S. (2019) 'Livelihood and ecosystem benefits of carbon credits through rainforests: A case study of Hiniduma Bio-link'. *Sri Lanka. Ecosyst. Serv.* 37: 100933 (https://doi.org/10.1016/j.ecoser.2019.100933).

Singh, N., Biswas, D., Gokhale, Y. and Kumar, K. (2024) 'Incentivising agroforestry through carbon revenue: Augmenting farmers' income in India'. *Agricultural Science Digest* (https://doi.org/10.18805/ag.D-6066).

Singh, S. (2022) 'Cooperative participation and market access in Ethiopia's coffee sector'.

Tadesse, G. et al. (2020) 'Market inefficiencies and quality challenges in Ethiopian coffee supply chains'.

Tagesanzeiger (2023) New EU law makes Swiss chocolate more expensive. Accessed on 02/01/2026 https://www.tagesanzeiger.ch/kritik-von-herstellern-und-bauern-neues-eu-gesetz-macht-schweizer-schoggi-teurer-537591731067

Tamru, S. and Minten, B. (2023) 'Value chain dynamics and farmer behaviour in Ethiopia's coffee sector'.

Tamru, S., Minten, B. and Wakeyo, M. B. (2024) 'Adapting Ethiopia's coffee sector to climate change through value addition'. IGC Blog, 10 September (https://www.theigc.org/blogs/climate-priorities-developing-countries/adapting-ethiopias-coffee-sector-climate-change).

Terefe, H., Hailemariam, B. and Mengistu, D. (2025) 'Ethiopia's Green Legacy Initiative embarks on exemplary landscape restorations'. Alliance Bioversity & CIAT, 16 July (https://alliancebioversityciat.org/stories/ethiopia-green-legacy-initiative-embarks-exemplary-landscape-restorations)

Tikuneh, A. (2023) 'Processing practices and market participation among Ethiopian coffee farmers'.

UNCTAD (2026) Navigating commodity price volatility, note by the UNCTAD Secretariat 11 August 2026 (https://unctad.org/system/files/official-document/c1mem2d68_en.pdf).

UNCTAD – United Nations Conference on Trade and Development (2018) 'Commodities at a glance: Special issue on coffee in East Africa'. Geneva: UNCTAD.

United Nations Statistics Division. (n.d.). *UN Comtrade database* [Trade data]. Retrieved September 29, 2026,

USDA – U.S. Department of Agriculture (2023) 'Coffee annual: Addis Ababa, Ethiopia (ET2023-0014)'. Foreign Agricultural Service. Washington, DC: USDA.

USDA (2025) 'Coffee annual: Addis Ababa, Ethiopia (ET2025-0014)'. Foreign Agricultural Service. Washington, DC: USDA.

Walsh, C. et al. (2025) 'Carbon sequestration and income trade-offs in smallholder coffee systems'.

Worako, T. K., van Schalkwyk, H. D., van Tilburg, A. and Ayele, G. (2008) 'Producer price and price transmission in a deregulated Ethiopian coffee market'. *Agrekon* 47(4): 492–508.

Worku, M. (2023**).** Production, productivity, quality and chemical composition of Ethiopian coffee. *Cogent Food & Agriculture*, *9*(1), Article 2196868. https://doi.org/10.1080/23311932.2023.2196868

World Bank.(2021) 'Ethiopia Oromia Forested Landscape Program'. Emission Reduction Program Document. Washington, DC: World Bank.

World Bank (2022) 'Rural income diagnostics study in Ethiopia'. Report No. P168019. Washington, DC: World Bank Group.

World Bank (2025) Market Study: Access to Green Finance for Coffee Sector in Ethiopia. World Bank. http://hdl.handle.net/10986/44172

Baffes, J., Mekonnen, D. and Temaj, K. (2026) Global agricultural markets in 202 6: stabilizing prices, persisting risks, World Bank Blogs, 3 February 2026 (https://blogs.worldbank.org/en/developmenttalk/global-agricultural-markets-in-2026--stabilizing-prices--persist).

Young, N. E., Evangelista, P. H., Mengitsu, T. and Leisz, S. (2020) 'Twenty-three years of forest cover change in protected areas under different governance strategies: A case study from Ethiopia's southern highlands'. *Land Use Policy* 91: 104426 (https://doi.org/10.1016/j.heliyon.2023.e18173).

Annex 1 – Primary data collection

Approach and sample

Primary data came from key informant interviews (KIIs) with 28 respondents across Ethiopia's coffee value chain and supporting institutions. Unstructured interview tools drew on desk research and study objectives and were tailored to each organisation.

Informants were selected to cover key value chain actors. Ten private exporters were randomly selected from a list supplied by the Ethiopian Coffee and Tea Authority (ECTA). The seven processors interviewed were separate entities affiliated with selected exporters as sister companies.

Table 3 Distribution of key informant respondents

Organisation type	Number of respondents
Financial institutions	4
Government agencies	1
Development partners and programmes	1
Cooperative unions	3
National associations	2
Private exporters	10
Private processors	7
Total	**28**

Organisational coverage

Cooperative unions. Oromia Coffee Farmers' Cooperative Union (OCFCU), Sidama Coffee Farmers' Cooperative Union (SCFCU) and Yirgacheffe Coffee Farmers' Cooperative Union (YCFCU) provided perspectives across farming, processing and exporting. Their links to farmers and member cooperatives' processing sites provided an indirect producer perspective.

Private exporters and processors. The ten exporters and seven affiliated processors contributed business perspectives on market access, buyer requirements, processing and traceability.

National associations. The Ethiopian Coffee Association (ECA) provided an exporter perspective. The Ethiopian National Coffee Association (ENCA), which brings together regional processors' associations, growers and women in coffee, contributed perspectives from these wider industry groups.

Financial institutions. Ethiopia's central bank, the Commercial Bank of Ethiopia (CBE), the Cooperative Bank of Oromia (COOP) and Awash Bank provided financial-sector perspectives, relevant to understanding coffee-sector financing and how export disruptions may affect lenders.

Government and development partner. ECTA provided a perspective on sector oversight and preparations for the European Union Deforestation Regulation (EUDR). GIZ contributed experience from supporting ECTA's institutional capacity and EUDR readiness.

Scope and limitations

Smallholder farmers were not interviewed directly; producer-related insights came from unions, exporters and processors closely linked to farmers. These institutional accounts do not replace farmers' own views.