

Harmonizing Ethiopian Coffee Production Systems with European Deforestation Regulation



This policy brief prepared based on the results of the study “The Ethiopia’s Coffee Sector Context Assessment” made by Shayashone PLC and financed by the Wageningen Research Ethiopia, RAISE-FS project. It pinpoints possible EUDR implications on smallholder farmers and the country’s economy and provides recommendations to ensure traceability and placement of smallholder-grown Arabica coffee on the European market.

Introduction

In Ethiopia, coffee is produced by over 5 million smallholder farmers under forest, semi-forest, garden, and plantation systems (Makiso et al., 2025; Jima 2020; RBG/KEW and ECFE 2017). The coffee value chain creates more jobs than any other commodity in the country, employing over 15% of the total population. In 2023/24, Ethiopia’s export was projected at 298,873 tons of coffee, generating 1.43 billion USD, which is about 30–35% of the country’s export revenue. Of the total exported volume, about 30% is conveyed to the European Union, emphasizing the need to maintain the country’s competitive position in this important market (Africa.com 2024; Worku 2023; GAIN 2023).

Coffee production systems in Ethiopia

In Ethiopia, coffee is produced under forest, semi-forest, garden, and plantation environments (Worku 2023; Ewnetu 2022; Jima 2020; RBG/KEW and ECFE 2017). These systems with their compliance and the EU deforestation regulation are described below.

Forest coffee production system: the naturally growing coffee trees are major sources of genetic diversity in the forest coffee ecosystem (Makiso et al., 2025; Jima 2020; Aerts et al., 2011). It is the origin of domesticated coffee varieties, cultivars, and genotypes (Aerts et al., 2011). Understandably, the farmers protect the forest and its constituency from intruders and open pass ways only during harvesting (Daba et al., 2022; Jima 2020; Yirdaw et al., 2019; Labouisse and Kotecha 2008). Though small in volume (10% of the total production), the forest coffee production system is compliant with the EUDR as species diversity, forest structure, and environmental integrity are undisturbed (Makiso et al., 2025). However, there is a crucial need to protect the forest integrity, monitor using satellite imagery, and collect geospatial data to ensure deforestation free production and traceability of the produce.

Key Messages

Incorporating traceability into national quality standards:

establish clear protocols and procedures, practices, and indicators for data collection, and processing. Integrate the protocols into the national mandatory standards to have the force of law.

Establishing regulatory framework and inspection

mechanism: install regular monitoring and review processes to ensure data accuracy and relevance to EUDR requirements.

Clustering smallholder farmers’ holdings: aggregate the fragmented area of smallholder farmers for accurate GPS data measurement and tracing back for traceability.

Stakeholder capacity building: increase relevant agency staff, coffee farmers, extension workers’, processors, and exporters awareness on the EUDR requirements and empower the clustered farmers with skills and knowledge on technology and tool use, data collection and analysis, and information sharing.

Sharing compliance costs: the high compliance costs are unbearable to Ethiopian smallholder coffee growers. Operators, suppliers, the Ethiopian government, and initiatives working in the coffee sector should cover or share these costs.

Minimizing production and market shifts: the EUDR requirement for proof of deforestation-free production, sustainably reporting of traceability, and risk assessment may compel farmers to go for easily marketable crops and the exports to less stringent regions and countries.

Enhance coordination and strengthen the public-private-NGO-partnership: for improved compliance and sustaining in the EU markets, up-to-date information sharing, and creating viable linkage with the government, non-governmental, and the private sector actors is essential.

Enhancing information sharing: introduce easy-to-use tools and technologies for data collection, recording, processing, and communicating the generated information with value chain actors.

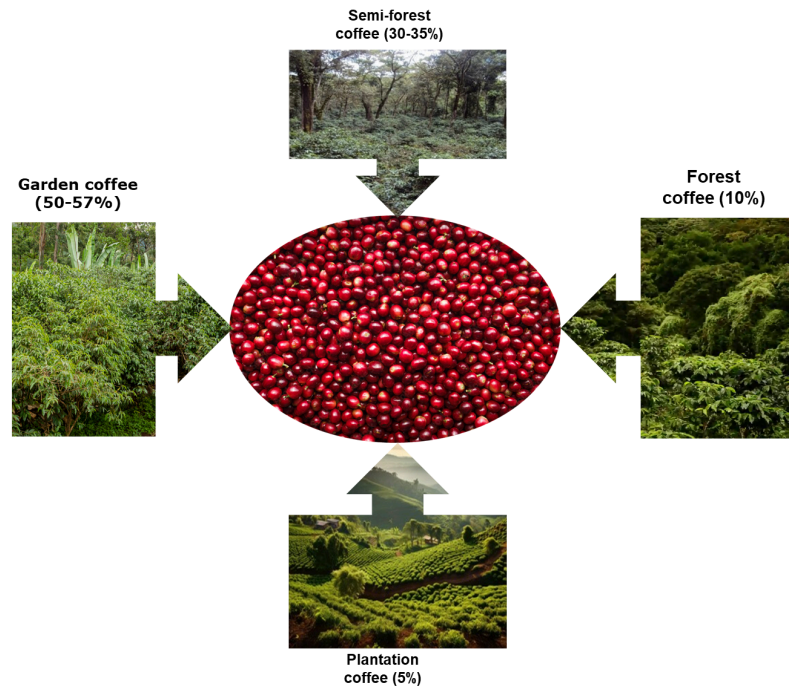
Giving precedence to infrastructure development: road, water, power, and network are key infrastructural shortfalls in coffee-growing areas of the country.

The semi-forest coffee production system: this system contributes to 35% of the total annual coffee production and serves as a source of genetic diversity where new varieties and cultivars are selected (Adugna 2021; Amamo 2014; Aerts et al., 2011). Though the contribution to deforestation is minimal, its part in forest degradation through biodiversity loss should not be neglected. Canopy clearing must be minimized and justified through geospatial data, forest and vegetation cover indices using monitoring tools to support its compliance with EUDR (Mitchell et al., 2017; Mori et al., 2017). It is essential to quantify the biodiversity loss due to pruning and path clearing through standardized and EUDR compliant management practices.

The garden coffee production system: Mixed cropping of fruits, tubers, stimulants, vegetables, spices, or medicinal plants together with a few uncut shade trees using low plant population and organic fertilization characterizes the farming system (Seid and Kibebew 2022). The garden system accounts for about 50% of the total national annual coffee production (Ewnetu 2022; Jima 2020; Tadesse et al., 2020; Habtamu 2019; Labouisse et al., 2008). Recent contributions of the garden coffee system to deforestation are minimal as production largely takes place around homesteads where deforestation might have taken place long ago. The system largely contributes to the country's foreign currency earnings, food security, environmental resilience, and improved livelihoods of stakeholders (Seid and Kibebew 2022). To ensure traceability and deforestation-free production, it is important to collect geospatial data and share the information with suppliers and the operators.

The plantation coffee production system: The plantation coffee production system focuses on improving productivity and quality of coffee through growing improved varieties, the use of inputs, and the application of good management practices (Megersa 2022). Plantation coffee in Ethiopia is produced on large commercial, medium to small entrepreneurs-held, and cooperative-owned farms on areas above 10ha (KEW and ECFR report 2017). Large commercial coffee farms' contribution to deforestation is less as most of them were established before 2020. Smallholder farmers amalgamated their land and established cooperatives for improved technology use, productivity, quality, and marketing of the produce. The contribution of plantation coffee to the national coffee production is estimated at about 5% (Tegegn 2022; Erko et al., 2022; Duressa 2018).

Because of the wider area (>10ha), plantation coffee can be monitored and traced easily through satellite imagery and geolocation data to verify for recent deforestation. To enhance the plantation coffee compliance with EUDR, commercial farms should give priority to employing sustainable production practices; collecting geolocation data, assessing risks and developing management strategies; filling the due



Coffee production systems output share

diligence statement; closely working with certifying agencies and initiatives; and entering contract farming agreements with sourcing companies. The Ethiopian Government should give emphasis to providing extension service, improving access to credit, and legally limiting expansion of plantations into forest areas.

Compliance of Ethiopian coffee production with the EUDR

Forest coffee

Under the current production setting, forest coffee is fully compliant with European Union Deforestation Regulation (EUDR) due to the Coffee arabica shade-loving nature and the nation's cultivation culture under naturally forested environments.

Garden Coffee

The garden coffee is grown by smallholder farmers around homesteads, contributing less to deforestation due to coffee trees and food crops mixed farming practices.

Semi-forest coffee

It is produced under slightly managed natural forest environments, contributing less to deforestation, but might be subjected to pruning or tree base cleaning for easy movement during bean picking.

Plantation coffee

The 5% plantation coffee is grown in an open sun environment, with the potential to contribute to deforestation during farm establishment phase only.

Therefore, under Ethiopian context, deforestation is less worrisome in terms of compliance to the EUDR. However, the most challenging requirement is sustaining traceability and providing geospatial data for over five (5) million smallholder farm plots of less than 0.1ha (Makiso et al., 2025; Worku 2023; Jima 2020).

Challenges of implementing EUDR

The EUDR poses significant challenges for Ethiopian coffee farmers, particularly smallholders, who may face difficulties in meeting the regulation's stringent requirements on traceability. It mandates operators to ensure products are deforestation-free, legally produced, information on sources of products is Geo-referenced and Due Diligence Statement (DDS) is uploaded, risks are analyzed and mitigated before placing any product on the EU market (ten Hove et al., 2024, EU 2023). The operators, in turn, request producers and suppliers to comply with the EUDR requirements before entering into any business deal. The multi-stage compliance requirements present uncertainty and hesitations among coffee chain actors. In addition to this, non-compliance to the regulation could lead to reduced demand or full rejection for Ethiopian coffee in the EU, potentially impacting suppliers', processors' and farmers' incomes and livelihoods. The high compliance costs and complexity of the traceability system could discourage producers and processors from complying and force suppliers to shift to less demanding markets (Makiso et al., 2025, African.com 2024, GAIN 2023).

Clearing of the doubts among coffee producers, processors, and suppliers through increased awareness, improved knowledge, and providing easy-to-use and easy-to-implement recommendations is essential to enhance the move towards EUDR compliance. Traceability and geo-referential compliance call for orchestrated actions of value chain actors, Federal and Regional governments, and the supporting initiatives. Nevertheless, the very small plot size coupled with the scattered nature of farming may overstretch data collection and uploading and tracking back and ensuring traceability. The high physical and financial resources requirements might also force operators to look for suppliers from compliant countries and exclude Ethiopian smallholders from the EU markets (GAIN 2023).

The policy direction towards improving the yield and quality of coffee and promoting exports is highly positive. It also encourages coffee unions, commercial farms, farmers having a minimum of two hectares, and processors to export coffee directly to the international market (GAIN 2023). However, trade policies are restrictive in terms of forcing exports and controlling the earned currency. For example, the regulations No. 602/2008 and No. 1051/2017 prohibit selling export quality coffee (grades 1-5) on the local market regardless of a big price (>200%) difference domestically and demands to acquire a special trade license for

roasting and exporting or domestic wholesaling. Following the April 2024 policy shift, the country eased restrictions on foreigners engagement in coffee export business aiming to broaden global market reach, increase export volume, boost foreign currency earnings, modernizing the industry and enhance knowledge and skill transfer (EIC 2025). The 2020 directive dictates penalties on those exporters hoarding coffee in their warehouses in price speculation (Tefera et al., 2024, GAIN 2023).

Potential coffee sector challenges in meeting the EUDR requirements

Small and fragmented land holding: about 92% of smallholder farmers own on average 0.1ha plot, which makes it difficult for geospatial data collection, mapping, and geo-referencing (Makiso et al., 2025; Tefera et al., 2024; CSA 2021/2022).

Poorly developed infrastructure: in rural areas where coffee is produced, power, network, road, financial, communication, and transportation facilities are missing or poorly developed. Specifically, the lack of digital infrastructure and expertise to provide digital extension services, data collection, and continuous updating makes the EUDR compliance challenging for most coffee farmers in Ethiopia (ten Hove et al., 2025; Kolongo 2024; GAIN 2023; Ewnetu 2022).

Underdeveloped value chain: over 95% of the coffee production comes from smallholder farmers with an average volume of 800 kg per household. Above 80% of the exported coffee passes through several buyers with different levels of aggregation and processing capacity.

The multistage product flow favours end-line processors and operators to aggregate and export a large volume of coffee when traceability was not a requirement. Meeting EUDR requirements becomes bleak under fragmented value chains, poorly developed infrastructures, weak stakeholder coordination and cooperative movements, complex economic landscape, and lack of actors' motivation to work in harmony (Kolongo 2024; Gabriella et al., 2024; Berihun et al., 2024; GAIN 2023).

Higher compliance costs: the EUDR mandates the operators to provide geodata, and production practices employed to ensure that buyers have enough information on safety of the coffee they drink and from where it is sourced. The operators request suppliers to provide the safety and traceability information before buying the produce. Then, the supplier is obliged to request the geospatial and traceability information from farmers with limited capacity to collect, process, store, and share. This indicate that all EUDR compliance-related costs are borne by producers, and the regulation doesn't guarantee that neither operator nor the supplier shares additional costs incurred due to the EUDR. Unless these costs are shared among traders, operators, and buyers, the probability of compliance is in question (Tefera et al., 2024; GAIN 2023).


Policy gaps: fluctuating marketing directives, lack of alignment between national and regional outlooks,

inadequate institutional capacity, limited value addition, poor market prospecting and business management skills, and limited access to services are few of the challenges in the Ethiopian coffee sector (Tefera et al., 2024). Lack of policy measures and enforcing institution on forest encroachment, number of shade trees to be maintained, coffee trees canopy and underneath growing fauna management are major bottlenecks.

Decreasing role of the Ethiopian Commodity Exchange (ECX): which was established to set grade and facilitate commodity transactions between sellers and buyers, and avoid credit trading, delivery, and payment defaults from both sellers and buyers. Currently, however, the decreased role of ECX and the increased vertical trading platform has resulted in significant defaults in payments (Capital News 2024, Tefera et al., 2024).


Conclusion and recommendations

The EUDR insist that products meet the zero-deforestation, legality criteria, due diligence has been carried out, information on their origin and geolocation cited. This realization requires stakeholders' collaboration, providing technical, and financial support to smallholder producers and a huge infrastructure investment across the nation. Knowledge and skill limitations and variability of the production system, fragmentation of landholdings, sophistication of the supply chains, limited smallholder access to financial products, and the very slow responsiveness of the actors are decisive challenges for nurturing traceability (Makiso et al., 2025; Worku 2023; Jima 2020). To overcome these challenges anticipated action points have been briefed below.




Emphasizes meeting EUDR requirements through sustainable practices and premium pricing to maintain market access.

Focuses on ensuring Ethiopian coffee remains a desirable export to the EU by adhering to their standards.




Advocates for developing and utilizing customized technologies for data collection and sharing, with shared responsibility for costs.

Focuses on building the technical infrastructure and capacity for accurate traceability.




Requires high attention from the Ethiopian government and coffee sector projects, with potential for premium prices for compliant farmers.

Implies a collaborative effort to ensure market competitiveness.




Proposes shared responsibility for technology acquisition and testing among the Ethiopian Government, operators, suppliers, and development partners.

Highlights the need for collective investment in data systems.




Addresses the challenge of maintaining access to the lucrative EU market by meeting its stringent requirements.

Focuses on the economic imperative of continued trade.




Addresses the challenge of accurately identifying and tracking smallholder coffee plots due to their small size.

Focuses on the technical difficulties of data collection in fragmented agricultural landscapes.



Ensures traceability, increases placement of Ethiopian coffee in EU markets, and minimizes deforestation and biodiversity loss.

Aims for a stronger market position and environmental benefits.



Facilitates accurate data collection and information sharing throughout the supply chain, leading to better traceability.

Aims for improved transparency and accountability in the supply chain.

References

- Adugna, B. (2021). Review on coffee production and quality in Ethiopia. *Journal of Agriculture, Forestry and Fisheries*, 10(6), 208. <https://doi.org/10.11648/j.aff.20211006.11>
- Aerts, R., Hundera, K., Berecha, G., Gijbels, P., Baeten, M., Van Mechelen, M., Hermy, M., Muys, B., & Honnay, O. (2011). Semi-forest coffee cultivation and the conservation of Ethiopian Afromontane rainforest fragments. *Forest Ecology and Management*, 261(6), 1034–1041. <https://doi.org/10.1016/j.foreco.2010.12.025>
- Africa.com. (2024, July 11). Ethiopia earned record revenues from coffee exports in 2023/24. <https://www.africa.com/ethiopia-earned-record-revenues-from-coffee-exports-in-2023-24/>
- Amamo Asfaw. (2014). Coffee production and marketing in Ethiopia. *European Journal of Business and Management*, 6(37), 109–122.
- Central Statistical Authority (CSA-FDRE). (2021/2022). Report on area and production of major crops (private peasant holdings, Meher season) (No. 1). Addis Ababa, Ethiopia.
- Daba, G., Berecha, G., Lievens, B., Hundera, K., Helsen, K., & Honnay, O. (2022). Contrasting coffee leaf rust epidemics between forest coffee and semi-forest coffee agroforestry systems in SW-Ethiopia. *Heliyon*, 8(12), e11892. <https://doi.org/10.1016/j.heliyon.2022.e11892>
- Duessa, E. (2018). The socio-cultural aspects of coffee production in southwestern Ethiopia: An overview. *Journal of Culture, Society and Development*, 38, 14–23.
- Erko, B., Diro, S., & Tesfaye, A. (2022). Commercialization of coffee production in coffee-based farming systems in Ethiopia. *Ethiopian Journal of Agricultural Sciences*, 32(3), 37–53.
- Ethiopian Investment Commission. (2025). A Directive to Regulate Foreign Investors Participation in Restricted Export, Import, Wholesale and Retail Trade Investments. Directive No. 1082/2025, May23, 2025. available at <https://investethiopia.gov.et/>
- European Commission. (2023, May 31). Regulation (EU) 2023/1115 of the European Parliament and of the Council 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. *Official Journal of the European Union*, L 150/206, 1–42.
- Ewentu Motebaynor. (2022). Review on coffee production constraints and opportunities in Ethiopia. *Journal of Horticulture and Forestry*, 9(1), 1–7.
- Global Agricultural Information Network (GAIN). (2023, May 19). Coffee annual (Report No. ET2023-0014).
- Habtamu Dirbie. (2019). Review on factors which affect coffee (*Coffea arabica* L.) quality in southwestern Ethiopia. *International Journal of Forestry and Horticulture*, 5(1), 12–19. <https://doi.org/10.20431/2454-9487.0501003>
- Jima, D. (2020). Review on coffee production and marketing in Ethiopia. *Journal of Marketing and Consumer Research*, 67(June), 6–14. <https://doi.org/10.7176/JMCR/67-02>
- Labouisse, J., & Kotecha, S. (2008,). Preserving diversity for specialty coffees: A focus on production systems and genetic resources of Arabica coffee in Ethiopia.
- Makiso, U. M., Worku, M., Tola, Y., & Gemedede, H. F. (2025). Ethiopian coffee: Production systems, geographical origin traceability, and European Union deforestation regulation directive compliance. *Journal of Agriculture and Food Research*, 19, 101695. <https://doi.org/10.1016/j.jafr.2025.101695>
- Megersa, H. G. (2022). Coffee (*Coffea arabica* L.) field establishment and management practices in Ethiopia. *American Journal of Engineering and Technology Management*, 7(3), 48–58. <https://doi.org/10.11648/j.ajetm.20220703.12>
- Mitchell, A. L., Rosenqvist, A., & Mora, B. (2017). Current remote sensing approaches to monitoring forest degradation in support of countries' MRV systems for REDD. *Carbon Balance and Management*, 12(9). <https://doi.org/10.1186/s13021-017-0078-9>
- Mori, A. S., Lertzman, K. P., & Gustafsson, L. (2017). Biodiversity and ecosystem services in forest ecosystems: A research agenda for applied forest ecology. *Journal of Applied Ecology*, 54(1), 12–27. <https://doi.org/10.1111/1365-2664.12669>
- Royal Botanic Garden (KEW), & Environmental Coffee Forest Forum (ECFF). (2017). Coffee farming and climate change in Ethiopia: Impacts, forecasts, resilience and opportunities. <https://www.kew.org/sites/default/files/2019-01/Coffee%20Farming%20and%20Climate%20Change%20in%20Ethiopia.pdf>
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- Seid Getnet & Kebebew Zerihun. (2022). Home garden and coffee agroforestry systems: Plant species diversity and composition in Yayu Biosphere Reserve, southwest Ethiopia. *Heliyon*, 8(4), e09281. <https://doi.org/10.1016/j.heliyon.2022.e09281>
- Tadesse, T., Tesfaye, B., Abera, G., Tesfaye, T., Bizuayehu, T., & Girma, A. (2020). Coffee production constraints and opportunities at major growing districts of southern Ethiopia. *Cogent Food & Agriculture*, 6(1), 1–36. <https://doi.org/10.1080/23311932.2020.1741982>
- Tefera, B., Kassab, H., & Zelalem, T. (2024). Analysis of Ethiopian coffee value chain for compliance with European Union Deforestation Regulation [Unpublished research paper]. [Available at: file:///E:/EUDR/Coffee VC_analysis_ssrn-5146613-1.pdf]
- ten Hove, H., Leuvel, K., Sopov, M., & Waarts, Y. (2025). The anticipated impacts of the EUDR on deforestation, forest degradation and coffee producing households – Formulating a Theory of Change based on the cases of Cameroon and Ethiopia. Wageningen Economic Research (Report No. WSER January 2025-082). <https://doi.org/10.18174/688694>
- Tegegn, A. (2022). Coffee production in Limmu Awraja, southwest Ethiopia: From the early twentieth century to the introduction of privatization policy. *Cogent Arts & Humanities*, 9(1). <https://doi.org/10.1080/23311983.2022.2139803>
- Worku, M. (2023). Production, productivity, quality and chemical composition of Ethiopian coffee. *Cogent Food & Agriculture*, 9(1). <https://doi.org/10.1080/23311932.2023.2196868>
- Yirdaw, E., Monge Monge, A., Austin, D., & Toure, I. (2019). Recovery of floristic diversity, composition and structure of regrowth forests on fallow lands: Implications for conservation and restoration of degraded forest lands in Laos. *New Forests*, 50(6), 1007–1026. <https://doi.org/10.1007/s11056-019-09711-2>

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