



Background study

Empowering smallholders to comply with regulations targeting forest risk commodities



Transformative
Land Investment



RECOFTC

Empowering smallholders to comply with regulations targeting forest risk commodities

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Acronyms and abbreviations

ASEAN	Association of Southeast Asian Nations
COCOBOD	Ghana Cocoa Board
EU	European Union
EUDR	European Union Deforestation Regulation
EUTR	European Union Timber Regulation
FAO	Food and Agriculture Organization of the United Nations
FLEGT	European Union's Forest Law Enforcement, Governance and Trade Action Plan
FRCs	forest risk commodities
FSC	Forest Stewardship Council
ISPO	Indonesian Sustainable Palm Oil Certification Scheme
MSPO	Malaysian Sustainable Palm Oil Certification Scheme
PaFF	Partnership for Forestry and Fishery Communities
PEFC	Programme for the Endorsement of Forest Certification
RAOT	Rubber Authority of Thailand
RSPO	Roundtable on Sustainable Palm Oil
SDGs	Sustainable Development Goals
SMEs	small and medium-sized enterprises
WWF	World Wide Fund for Nature

Executive summary

The clearance and degradation of forests for the production of agricultural commodities, including in Southeast Asia, is recognized as unsustainable from landscape to global levels. There are several initiatives targeting these practices, including the recent introduction of regulations in producer, processing and consumer countries. There is also much concern that these regulations may adversely impact smallholders, especially in Southeast Asia, with many of them likely to struggle with compliance.

This background study is part of a programme of work within RECOFTC to assess the potentially adverse impact of regulations, such as the European Union's Deforestation Regulation (EUDR), on smallholders. That programme is looking to redress any negative impacts while ensuring that the regulations are transformative for smallholders. The study had three objectives:

- Provide an overview of the potential and actual impacts on smallholders, especially in Southeast Asia, of the regulatory approaches to deforestation and degradation from the production and trade of forest risk commodities.
- Share potential good practices from Southeast Asia and other tropical regions that support smallholders in the sustainable production of forest risk commodities.
- Propose ways forward to support these initiatives in being transformative for smallholders in the region and in the landscapes in which they work.

The study provides a summary of challenges and opportunities facing smallholders in the region in the context of regulatory mechanisms that address the impacts of the production and trade of agricultural commodities on forests. These include interlinked issues around access to finance and markets, data management, regulatory compliance and traceability.

Between 6 per cent (Thailand) and 64 per cent (Timor-Leste) of smallholders in the region appear to not have statutory tenure rights to their land holdings. This fundamentally undermines any efforts by these smallholders to demonstrate legality and sustainability. There has been progress for smallholders in recent years, including in their ability to access finance and investments in infrastructure that support market access and value addition. Nevertheless, much work still needs to be done.

The study presented here uses case studies to show potential good practices and to convey what needs to be put in place to respond to the challenges and opportunities. These practices highlight certain interlinked fundamentals that initiatives should have to effectively support smallholders:

- **Integrated approach:** The practices with the most potential are those that consider the various fundamentals that smallholders need to meet regulatory requirements (access to finance, compliance and legality and an enabling environment). There are, however, fundamentals that are more important than others, primarily clear legal tenure rights.
- **Balance between top-down and bottom-up approaches:** A good practice is one in which smallholders can lead while meeting the regulatory requirements of producer and consumer countries. National systems, such as traceability and extension services, typically originate from bodies at the national level, often adopting a top-down approach. Key here is to ensure that the balance works – meeting the needs of the smallholders and respecting their rights while aligning with international commitments and domestic and overseas regulations.
- **Building for the future:** This includes developing a robust monitoring system and building up resilience to future changes and shocks.
- **Focus on marginalized households:** This ranges from smallholders in remote landscapes with limited access to infrastructure and markets to more traditionally marginalized persons, such as women.
- **Partnership:** Positive collaboration between the trifacta of smallholders, the private sector and governments in producer countries is essential. There is also a need to ensure coordination between the different initiatives that directly and indirectly support smallholders. Parallel to this is the need to take a programmatic approach rather than treat it as a project.
- **Ensuring sustainable income:** Smallholders' engagement and their ability to thrive depends on their income. This recognition must shape the heart of any initiative.

To ensure that no smallholders are left behind, a long-term strategy and practical implementing plan are needed. This is the starting point for the proposed ways forward. Such a strategy and implementing plan must build on the challenges and opportunities identified as well as the considerations accentuated within the potential good practices. The ways forward have the ultimate objective of ensuring that smallholders can comply with a traceability system for all agricultural and forest commodities for export and for sale in provincial and national capitals. This will require that all smallholders have clear tenure rights to their land holdings and a practical information management system is in place that enables smallholders and their partners to monitor their holdings and adapt as necessary, including responding to external challenges and opportunities efficiently and effectively.

Introduction

Increased efforts in recent years have worked to understand and address the role of the production of agricultural commodities (also known as forest risk commodities, or FRCs) in deforestation and forest degradation (Lambin & Furumo, 2023; Goldman et al., 2020), including in Southeast Asia (Wang et al., 2023; Cisneros et al., 2021; Grogan et al., 2018). Despite the progress, deforestation and degradation are still pressing concerns in Southeast Asia (Cambodia, Indonesia and the Lao People's Democratic Republic lost 8 per cent, 3.1 per cent and 1.2 per cent, respectively, of their forest area between 2015 and 2020 [FAO, 2020], with agricultural commodities the main driver of the loss [see Annex 7]).

The continued deforestation and degradation have led to commitments by companies to have deforestation-free supply chains, the development of voluntary sustainability standards (such as the Forest Stewardship Council [FSC] and the Programme for the Endorsement of Forest Certification [PEFC]) and initiatives that support the private sector (such as the Accountability Framework Initiative and the Global Platform for Sustainable Natural Rubber). There also have been significant initiatives by governments in producer and consumer countries (such as the United States' Lacey Act Amendment and the European Union's Timber Regulation) to systemically address the problem. But the recent development of the European Union's Deforestation Regulation¹ (EUDR) has resulted in increased focus on the effectiveness of regulations, including in the context of non-regulatory initiatives, and on the possible adverse impacts.

The various initiatives targeting the role of FRCs in deforestation and degradation have different impacts. One of the increasingly publicized concerns is the actual and potential impacts on smallholders, many of whom are struggling or will struggle to meet the requirements of these initiatives. These struggles endure against a backdrop of other huge challenges, including climate change and fluctuating commodity prices and input costs. Considering that there are approximately 100 million smallholder farmers in Southeast Asia, recognizing and understanding how they are impacted and how they respond to these initiatives is vital (WWF, 2021).

This background study report provides an overview of the actual and potential impact on smallholders of initiatives that address the role of FRC production in deforestation and degradation in Southeast Asia. It introduces potential good practices for ensuring that, as a minimum, no smallholders are left behind and that the initiatives are transformative – that they help to clarify tenure rights and provide sustainable livelihood-development opportunities.

Objectives and scope

Objectives

The programmatic work, of which this background study is a part, has one overall objective:

- Ensure that the implementation of various regulatory approaches to address the conversion and degradation of forests in the production of agricultural and forest commodities is transformative for the management of forest landscapes in Southeast Asia and for the well-being of smallholders in these landscapes.

There are three specific objectives of the background study:

- Provide an overview of the potential and actual impacts – both positive and negative – on smallholders, especially in Southeast Asia, of the regulatory approaches that address the resulting deforestation and degradation from the production and trade of FRCs.
- Share and unpack the potential good practices from Southeast Asia and other tropical regions that support smallholders in the sustainable production of FRCs.
- Propose ways forward, based on a theory of change, to support these initiatives in becoming transformative for smallholders in Southeast Asia and in the landscapes in which they work.

Scope

The target group of the background study was smallholders. Although there are different national definitions and criteria for how smallholders are identified,² this study report uses the definition from the Food and Agriculture Organization of the United Nations (FAO, 2013): “Smallholders are small-scale farmers, pastoralists, forest keepers, fishers who manage areas varying from less than one hectare to 10 hectares.” The report focuses on land holdings. In some cases, data on smallholders may include those whose holdings are more than 10 hectares. While the immediate focus is on smallholders whose products are for international and national markets, consideration is also given to persons selling in local markets or for their subsistence, although the primary point remains the transformative potential of the regulations.

The geographical spotlight is on Southeast Asia. While giving appropriate space for the commodities covered by the EUDR (cattle, cocoa, coffee, palm oil, rubber and wood), the report also considers other agricultural commodities that are produced

by smallholders in the region, including cassava and maize.³ The main challenges and opportunities facing smallholders often cut across commodities.

The report is structured to provide an overview of the current and potential playing field for smallholders when complying with the regulations directed at the production and trade of FRCs:

- **Regulatory frameworks and market-based mechanisms:** Overview of the relevant FRC regulations and market-based mechanisms affecting smallholders, particularly the direct and indirect requirements placed on them.
- **Compliance challenges and opportunities:** Review of the practical challenges confronting smallholders, such as technical requirements, financial and capacity constraints and differences in compliance feasibility. The overview of the challenges, consideration of opportunities and the potential good practices are based on the same analytical framework, with the main overlapping criteria:
 - **Access to finance:** Access to financial resources is needed for smallholders to secure their livelihoods.
 - **Data management:** Data and its effective management are fundamental for supporting compliance and facilitating access to markets and finance. Smallholders must have the capacity to provide and access recognized geospatial data, which is essential for traceability. Data management must include a centralized and accessible data management system that respects the rights of the data providers (smallholders).
 - **Market access:** Secure market access creates various incentives for smallholders to develop their production. However, they face numerous challenges to secure that access, and these challenges will be amplified if the smallholders cannot manage the regulatory requirements. Equitable partnerships between smallholders and the private sector can help mitigate this risk.
 - **Regulatory compliance:** Accordance with regulatory requirements is an important step in having secure market access as well as improved access to finance, for example. This includes clear and strong legal land rights. Additionally, smallholders must ensure they can demonstrate compliance with other requirements.
 - **Traceability:** Smallholders often struggle with the technical requirements of traceability systems demanded by the various regulations and certification schemes. Additionally, the costs involved are often a deterrent.
- **Potential good practices:** Smallholders have independently developed or received support to develop their livelihood options in a sustainable manner. The potential good practices are framed against the same principles as those used for compliance challenges and opportunities. These potential good practices in turn have led to insights on the fundamentals for initiatives to ensure that smallholders can comply with the FRC regulations.

- **Ways forward:** Smallholders likely need further assistance to manage the FRC regulatory and market-based requirements, such as specific capacity-development programmes, technology access and collaborative models for shared compliance.

Background

Importance of smallholders in the production of agricultural commodities

The estimated 100 million smallholders in Southeast Asia (WWF, 2021) have a vital role in the production of agricultural and forest commodities (Table 1). The smallholders' importance goes beyond merely the production of a commodity to supporting, among other things, poverty reduction, the livelihood development of local communities and food security.

Table 1: Estimated area and number of smallholders cultivating selected agricultural crops and the percentage of smallholders without legal tenure in nine Asian countries

	Total number of smallholders (million)	Percentage of smallholders without legal tenure	Cocoa area hectares (No. of households)	Coffee area hectares (No. of households)	Maize area hectares (No. of households)	Palm oil area hectares (No. of households)	Rubber area hectares (No. of households)	Sugarcane area hectares (No. of households)	Wood area hectares (No. of households)
Cambodia	3.73	30%	ND	ND	(33,270)	ND	161,103 (32,100)	ND (35,910)	ND
Indonesia	38.97	25–30%	1,340,323 (1,483,725)	1,243,436 (1,852,915)	ND	6,385,642 (2,964,238)	3,233,561 (1,771,192)	ND	ND
Lao PDR	0.64	50%	ND	47,340 (30,820)	64,000 (51,400)	ND	91,852 (57,120)	1,500 (7,800)	ND (643,284)
Malaysia	1.66	ND	5,445.2 (5,452)	ND	ND	816,100 (250,000)	1,023,000 (217,000)	ND	ND
Myanmar	7.02	20-30%	ND	ND	ND	ND	(80,000)	ND	ND
Philippines	11.80	ND	ND	ND	ND	ND	(55,296)	(74,800)	ND
Thailand	12.73	6%	2008 (2,859)	42,914 (30,833)	ND (463,857)	970,000 (400,575)	3,516,091 (1,700,602)	ND (161,905)	206,844 (58,225)
Timor-Leste	0.21	64%	ND	20,800	35,699	ND	45	ND	19,866
Viet Nam	24.40	ND	ND	480,000 (640,000)	ND	ND	479,566 (265,000)	97,278 (126,247)	3,183,067 (2,500,000)

Data sources: The total number of smallholders comes from the World Business Council for Sustainable Development (2016), except for the Lao PDR (Government of Lao PDR, 2021b), Myanmar (MOPF, 2024) and Timor-Leste (General Directorate of Statistics, 2020). The estimated percentages of smallholders with legal tenure are from different sources: Cambodia (MRLG, 2016), Indonesia (Eggen et al., 2024; ESCAP, 2024), Lao PDR (World Bank, 2022), Myanmar (Namati & Landesa, 2015), Thailand (Gritten & Khunrattanasiri, 2023) and Timor-Leste (General Directorate of Statistics, 2020). Data on specific commodities and countries:

- Cambodia – maize and sugar cane (2020–2021) (MAFF, 2023), rubber (2021) (Forest Trends, 2023).
- Indonesia (Government of Indonesia, 2024).
- Lao PDR (Government of Lao PDR, 2021).
- Malaysia – cocoa (Bariah et al., 2024), palm oil (Wan, 2022), rubber (Bernama, 2024).
- Myanmar – The data for Myanmar should be considered in the context of the military coup in February 2021, the escalating civil conflict and introduction of conscription in 2024. The number of smallholders was calculated for holdings of fewer than 20 acres (8.09 hectares) (MOPF, 2024). Rubber data are from Schwartz (2018).
- Philippines – rubber (PRTWG, 2017), sugarcane (the number of households is for those with holdings of 5 hectares or smaller) (NEDA, 2020).
- Thailand (Gritten & Khunrattanasiri, 2023).
- Timor-Leste (General Directorate of Statistics, 2020).
- Viet Nam – coffee (ICO, 2019), rubber (CIRAD, 2023), wood (MARD, 2016), sugarcane (GSO, 2021, VSSA, 2021).

Smallholders dominate the production of many commodities in the region. For example, in Indonesia, smallholders manage approximately 99 per cent of the cocoa, 98 per cent of the coffee and 92 per cent of the rubber cultivated areas, as well as 37.9 per cent of the total palm oil plantations (Government of Indonesia, 2024). In Thailand, slightly more than 97 per cent of palm oil and 88 per cent of rubber plantations are managed by smallholders (Gritten & Khunrattanasiri, 2023; see Annex 1 for more information). This underlines the importance of smallholders in the region and the need to ensure that they have the capacity to handle challenges and opportunities as they arise, including meeting regulatory requirements.

Overview of regulations and market-based mechanisms addressing the production and trade of forest risk commodities

Regulations

The introduction of the EUDR, which was formally adopted in June 2023, has further scaled up the focus on addressing the role of agricultural and forest commodities in deforestation and degradation. The EUDR, which is a component of the European Green Deal, is part of the bloc's commitment to be "the first climate-neutral continent". The EUDR builds on other initiatives from the European Union to address related issues. These include the European Union's Forest Law Enforcement, Governance and Trade Action Plan (FLEGT Action Plan, adopted in 2003), of which the EU Timber Regulation (EUTR), which entered into force in March 2013, and the FLEGT Voluntary Partnership Agreements are pillars.

The EUDR is facing similar concerns that the EUTR faced when it was introduced: worries about compliance and unforeseen impacts, including on smallholders. The development of Voluntary Partnership Agreements in many of the producer countries has helped to mitigate some of the negative impacts, particularly through the emphasis on the partnership approach and support to improve transparency and the participation of civil society. Several challenges to compliance with the EUTR have not been addressed, however (European Commission, 2021).

The EU Deforestation Regulation:

- Covers seven commodities (cattle, cocoa, coffee, oil palm, rubber, soya and wood) and many of their derived products.
- Prohibits placement of the above products into European Union markets or export from the EU, unless they are:
 - Deforestation-free, meaning the commodities were produced on land that was not converted from forest to agricultural use after 31 December 2020.

- Produced in accordance with the relevant legislation of the country of production.
- Covered by a due diligence statement indicating negligible risk of non-compliance.

The EU and its Member States have in place or are introducing other regulations that are directly or indirectly linked to the sustainable production and trade of FRCs. For example, the EU's Corporate Sustainability Due Diligence Directive, which came into force in July 2024, and Germany's Act on Corporate Due Diligence Obligations in Supply Chains aim to ensure that companies identify and mitigate adverse human rights and environmental impacts of their actions inside and outside the bloc. These also need to be considered when working to support smallholders.

Many processing and consumer countries beyond the EU have also introduced or are introducing regulations to reduce their deforestation footprint. This includes Australia⁴ (Illegal Logging Prohibition Act, 2012), China⁵ (Forest Law, 2019), Japan⁶ (revised Clean Wood Act, 2023, which comes into force in April 2025), Republic of Korea⁷ (Act on the Sustainable Use of Timber), the United Kingdom⁸ (UK Timber Regulation, 2021 and the Environment Act, 2021) and the United States⁹ (Lacey Act Amendment, 2008 and the Fostering Overseas Rule of Law and Environmentally Sound Trade Act [Forest Act]).

One issue is that the actual and proposed regulations differ in scope, covering different commodities (and HS codes¹⁰), with varying requirements and considerations (such as legality only or also zero deforestation and degradation after a cut-off date) as well as penalties. This, of course, brings an additional level of complexity for those importing the products and other actors, including smallholders, in the supply chains.

RECOFTC (2024) conducted a forest governance assessment in 2023 in five Southeast Asian countries (Cambodia, Indonesia, Lao PDR, Thailand and Viet Nam) and Nepal that included analysis of how they are dealing with the production and trade of FRCs. The assessment found that the legal foundation in these countries was improving, particularly emphasis on the trade in illicit timber.¹¹ But the main challenge was inadequate capacities related to implementation and enforcement. The enforcement issue was also highlighted in the forest governance assessments that the European Forest Institute (2024b) and the World Resources Institute (2023) conducted in the Lao PDR and Sumatra, Indonesia, respectively. One critical concern cutting across these assessments is the need for an accessible and comprehensive monitoring system to complement market-based mechanisms and regulations. This issue not only links to adhering to domestic obligations but also complying with overseas legal requirements. There are also debates on whether the traceability systems should be led by the government or the private sector, on their effectiveness and on their accessibility, including for smallholders.

Market-based mechanisms

Voluntary sustainability standards applying to FRCs began to proliferate in the 1990s. The standards typically cover three overlapping areas – environmental and social sustainability, safety and quality – thus providing buyers with a degree of confidence in the product. They also have certain fundamentals at their core (WWF & ISEAL, 2017):

1. Independent verification
2. Multistakeholder participation
3. Striving to improve
4. Transparency

Beyond these core components, the standards differ in many ways, including their focus commodity, the principles and criteria on which they are based and their uptake by buyers in markets throughout the world.

There are mixed perceptions on the impact of these voluntary sustainability standards in addressing deforestation. The perceived mixed results and the increasing need to redress deforestation and degradation were motivations, for example, for the amending of the American Lacey Act and the development of the EUDR (European Commission, 2021). The concerns regarding the voluntary sustainability standards include the burden, often revolving around costs, that they place on producers and that is not reflected in a price premium for the producers. The apparent limited impact of the voluntary sustainability standards is also part of bigger concerns about the efforts by the private sector to address sustainability, including their zero-deforestation commitments (Lambin & Furumo, 2023).

Some of the challenges that smallholders encounter with the voluntary sustainability standards are similar to those for the regulations on FRC production and trade, including demonstrating tenure and covering the costs for compliance (EFI, 2024a). These concerns include the large number of smallholders with scattered and small-sized holdings who are often involved in the supply chain and the ability of companies with the voluntary sustainability standards or the zero-deforestation commitments to access information on the source of all products (Lambin & Furumo, 2023), including for palm oil in Indonesia (Lyons-White & Knight, 2018). This may compel companies that are striving to verify the sustainability of their products to concentrate on simpler supply chains, such as those with fewer actors, including smallholders and intermediaries.

Many of the voluntary sustainability standards, such as FSC and PEFC, are making efforts to ensure that their scheme aligns with the EUDR. For example, PEFC has revised its Sustainable Forest Management benchmark standard to align with the EUDR.

General challenges and opportunities that smallholders experience in Southeast Asia

This section provides a broad overview of the challenges and opportunities that smallholders in Southeast Asia encounter in the production and marketing of their crops. This provides a grounding to then consider the potential good practices for how smallholders can respond positively to the regulations addressing the production and trade of FRCs. Each of the subsections contains suggested further reading for more detail on the challenges and their impacts.

Access to finance

Smallholders' access to finance is fundamental for their livelihood development, such as investing in machinery and hiring labour, as well as helping them take advantage of opportunities and better manage challenges. However, smallholders in the region face many challenges to accessing finance (WWF, 2021). These include the supply of loans and the demand for them from smallholders, clouded by risk management (providers may view smallholders as having too many risks and high transaction costs while the borrowers may be afraid of taking loans from outsiders, such as national banks). There are numerous types of mechanisms that smallholders can use to access funds, and each comes with its own challenges and opportunities (Table 2).

Table 2: Summary of selected sources of loans for smallholders

Formal	<ul style="list-style-type: none"> ▪ Commercial banks ▪ Microfinance institutions ▪ Social lenders ▪ Public financial institutions ▪ Companies (buyers of crops) 	<p>Pros</p> <ul style="list-style-type: none"> ▪ Regulatory oversight ▪ Social lenders and companies often provide technical support to loan recipients <p>Cons</p> <ul style="list-style-type: none"> ▪ Tend to be less accessible to smallholders, with the exception of buyers and social lenders: ▪ See smallholder loans as high risk with high transaction costs ▪ Strict requirements regarding paperwork and collateral ▪ Long period from application to receiving loan ▪ Often requires proof of legal tenure and management rights
Informal	<ul style="list-style-type: none"> ▪ Family members ▪ Private lenders in a community ▪ Village and community savings and loan associations 	<p>Pros</p> <ul style="list-style-type: none"> ▪ Tend to be more accessible to smallholders: ▪ Less demanding paperwork ▪ Fewer requirements regarding collateral ▪ Presence in the community <p>Cons</p> <ul style="list-style-type: none"> ▪ Loan size is often limited ▪ Lack of regulatory oversight ▪ Period for repayment tends to be short

Access to finance in Southeast Asia is improving (World Bank, 2021). Data from the Government of Lao PDR (2021b), for instance, reflect that in fiscal year 2019/2020, 26 per cent of farm households took an agricultural loan from some type of loan source, which was double the amount from 2010–2011. The data for Viet Nam also indicate progress, with 76.2 per cent of households having access to loans for agricultural, forestry and fishery production activities in 2020 (GSO, 2021). However, data from Myanmar show that the value of reported agricultural loans fell by 75.4 per cent between fiscal years 2019/2020 and 2022/2023 (MOPF, 2024), with this likely being the result of the civil unrest in the country since the military coup in February 2021.

The World Bank data also highlight numerous concerns, including the fact that many rural households do not have a bank account, which is a sizeable majority in Cambodia and the Lao PDR. Additionally, many households in rural communities in these two countries and Indonesia had insufficient funds for meeting their immediate needs (see Annex 2). This has numerous implications, including on their willingness and ability to invest in their holding. The grave situation in Myanmar is leading to decreasing access to formal financial services in some parts of the country, as well as increased costs to use these services.¹²

An unpacking of the national-level data reveals the importance of having detailed subnational data. For example, Lao PDR government data (2021b) show significant differences within the country, with 66 per cent of farmers in Oudomxay Province

obtaining a loan in fiscal year 2019/2020, while the share in Savannakhet Province was only 9 per cent. Nearly half of the loans that were obtained were used for buying livestock (at 47 per cent), with purchasing crop inputs and constructing farm buildings the next most common investments, at 19 per cent and 16 per cent, respectively. The data on collateral show that 52 per cent of those taking a loan used “other property” as collateral, and 27 per cent provided no collateral.

Data management

Effective data management is fundamental for informed decision-making, from farm to national levels. Some of the countries in the region lack an effective centralized data management system for forestry and agriculture, with many data sets siloed. This leads to various implications, including misdirected policies that may harm smallholders.

The scale of the challenge in developing a robust and accessible system is reflected in the fact that 95 per cent of all coffee smallholders in Viet Nam (approximately 456,000 smallholders) have a coffee holding of less than 1 hectare, while this describes 95 per cent (or more than 1.65 million) of rubber smallholders in Thailand (ADP, 2024).

State and non-state actors have for many years been working to support the development of digital infrastructure to support rural development, among other things. In 2022, the average internet penetration in Southeast Asia was 70 per cent, with the leaders being Brunei Darussalam, at 95 per cent, Singapore, at 90 per cent, and Malaysia, at 84.2 per cent. Indonesia, Philippines, Thailand and Viet Nam also have approximately 70 per cent penetration, while Cambodia (at 52.6 per cent) and Lao PDR (at 48.8 per cent), Timor-Leste (at 45.1 per cent) and Myanmar (at 43.3 per cent) have the lowest rate of penetration (ASPI, 2022). Most countries have plans by state¹³ and non-state actors to further develop their internet coverage that are supported by the ASEAN Digital Master Plan (2025)¹⁴ and the ASEAN Work Programme on Electronic Commerce (2017–2025).¹⁵ It is essential to support not just data management but also access to finance and markets. If the accessibility continues to improve in rural areas, so should consideration of other issues:

- Offline data collection options for households still without internet access.
- Accessibility to smallholders, considering language needs and capacities.
- A centralized data management system that is accessible, verifiable and credible for the main stakeholders.
- Clear data-rights management, with appropriate grievance redress mechanisms.
- A practical and appropriate plan and system for reviewing and updating data collection and its management to ensure reliability and relevance.

On paper, these components look desirable and feasible when considering the importance of data for supporting rural communities’ livelihood development. However, there are numerous considerations, including the sensitivities and

legal obligations surrounding data collection and data-sharing with third parties, including overseas.¹⁶ From a smallholder perspective, there are various potential issues:

- Smallholders' capacity to collect and share, for example, geolocation data and traceability information, as required by the EUDR. Considerations here include:
 - access to appropriate technology
 - costs
 - data literacy
- Relationships with other supply chain actors (other smallholders and intermediaries) and their capacity and willingness to collect and share data.
- Lack of clear rights for data providers in how their data are used and shared. Considerations include risk in sharing data if it indicates illicit or unsustainable practices.

These issues need to be considered in the context that there is a large degree of confusion among many EUDR actors on the level of detail required and the tools that are needed. This lack of understanding stems from the limited guidance and the confusing information from third parties on what is required of smallholders to comply. The complexity is exacerbated by the many tools that purport to support compliance but, in some cases, make the situation even more complicated.

Market access and partnerships

Smallholders face significant challenges in the production and marketing of their crops, including the input costs (for fertilizer and labour) and in maximizing the price for their product in the market (Touch et al., 2024; Tran & Touch, 2024).

Table A5 and Figure A1 (in Annex 3) illustrate the fluctuations of prices globally for selected commodities from 2005 to 2025 (forecasted). There was a significant increase in prices between 2005 and 2010, with cocoa, palm oil, sugar and rubber more than doubling in price. Then prices fell from 2010 to 2020, especially for rubber and sugar. This was followed by significant increases across the 11 commodities between 2020 and 2025, especially for cocoa and robusta coffee, with their prices more than doubling. From 2005 to 2025, the prices for cocoa (at 290 per cent), coffee robusta (at 277 per cent) and sugar (at 110 per cent) increased the most, while prices of logs (at 3.4 per cent), sawn wood (at 7.7 per cent) and rubber (at 29.5 per cent) increased the least. These fluctuations in prices have various impacts on smallholders, which, among other things, need to be considered in the context of the production cycle for each commodity. For example, the cassava plant is usually harvested after eight to 18 months, while a rubber tree produces its first commercial crop five to seven years after planting. The fluctuations in global prices may not be completely reflected at the national or farm level due to state subsidies and commitments by private buyers,

for example. Nonetheless, they are good indicators of the risks that smallholders confront when making short- to long-term decisions for their holdings.

Analysis of price changes for some input costs for smallholders highlights other challenges. For example, from 2005 to 2025, prices rose for urea (54.1 per cent), triple superphosphate (111 per cent), diammonium phosphate (125 per cent) and phosphate rock (263 per cent) (World Bank, 2024b). These increases varied, with significant increases between 2005 and 2010, decreases from 2015 to 2020 and sizeable increases again from 2020 to 2025 (see Table A6 in Annex 3). Another consideration for input costs is the availability and cost of labour, which has become a challenge in recent years in, for example, the Lao PDR and Myanmar. In some countries there is a reliance on overseas labour, but many of these workers lack legal documentation, which has implications for EUDR compliance.

The nature of smallholding also impacts the ability of farmers to get a fair price for their product, and the small number of products they can sell undermines their ability to negotiate. This can be compounded by the intermediaries who are often the next step in the supply chain and who seek income from their interventions. This is heightened by smallholders' limited access to market information, including prices offered by different buyers. These situations underline the importance of equitable partnerships between smallholders (to amplify their voices, strengthen their negotiating position and pool their resources) and the private sector (to ensure effective learning and communication of opportunities and challenges in the supply chains) and with government actors (to ensure compliance with regulations).

Approximately 80 per cent of farm households in Lao PDR use one or more types of machinery in their farming. The variation across the country was from 94 per cent in Xiengkhouang Province to 49 per cent in Luang Prabang Province, with numerous factors, including topography, being determinants of the use of machinery. Interestingly, 90 per cent of farmers in Savannakhet Province reported using machinery but only 9 per cent of them took a loan in that year (Government of Lao PDR, 2021b). Also in the Lao PDR, there are many isolated producers, which leads to high transaction costs and reduced profit potential and which is compounded by a low level of investment. There is also a perceived limited capacity to invest in digital systems and modernize production infrastructure. Producers in Lao PDR are challenged to meet sanitary and phytosanitary requirements of international buyers, including Chinese buyers (World Bank, 2022b). Although systems to meet the market requirements are being developed, many challenges remain, including capacity among subnational government staff and the smallholders. These capacity gaps include understanding the requirements, especially if they are reviewed and updated on a regular basis (FAO, 2022). The smallholders are also working together to overcome this issue, including by sharing the latest information and forming cooperatives to get the appropriate documentation to meet the requirements at the border (World Bank, 2022). The development of the Lao–China Railway has also facilitated cooperation between government agencies to support trade and encouraged investments by Chinese agribusiness, which has led to improved information sharing (World Bank, 2022b).

Another important consideration of the ability of smallholders to respond to market opportunities and regulatory demands includes infrastructure in rural areas. All the Southeast Asian countries have made significant progress on providing electrification to rural communities. For example, data from Lao PDR (Government of Lao PDR, 2021b) and Viet Nam (GSO, 2021) show that 92 per cent and 99 per cent of villages have access to electricity, respectively. Access to sealed roads (roads with a protective coating of asphalt or concrete) is also relatively high in both countries, at 93 per cent and 99.7 per cent, respectively. Despite this progress, there are still thousands of smallholders in these countries without access to roads and/or a stable supply of electricity.

Regulatory compliance

A starting point for smallholder regulatory compliance is legal tenure to their land holdings. The tenure rights of persons living in forest landscapes in Southeast Asia have long been a focus for state and non-state actors (including in the Sustainable Development Goals¹⁷), with considerable investment being made to address this issue. Between 6 per cent (Thailand) and 64 per cent (Timor-Leste) of smallholders in the region may not have statutory tenure rights to their land holdings (see Table 1). In the context of FRC regulations, clear tenure is critical for smallholders to demonstrate the legal production of their crop and to access finance.

The Prindex assessment (2024) on perceptions of tenure security for property for rural and urban people provides an indicator of the strength of tenure rights. The most recent assessment shows that Viet Nam, Indonesia and Thailand led the region on the perception of having secure tenure – at 82 per cent, 71 per cent and 68 per cent of respondents, respectively. The respondents with the highest level of perceived tenure insecurity were in the Philippines (at 56 per cent) and Cambodia (at 42 per cent) (see Table A7 in Annex 4).

Many countries in the region are working to rectify the tenure issues. Some are using social forestry programmes and other initiatives, such as Cambodia's Land Titling campaign in 2012–2013, the Agrarian Reform Programme in Indonesia and the new Country Action Plan for the Recognition of Land Use Rights in Forestland in the Lao PDR.¹⁸ The Country Action Plan includes a target to “issue land titles, land use certificates and village forest management and protection contracts according to the land use type for land used by people living in 3,167 villages located in the three forestland categories by 2030”.

Agricultural extension and advisory services for smallholders have a fundamental role in supporting their regulatory compliance (Ha et al., 2024; Gritten & Khunrattanasiri, 2023). There is variation, however, in the effectiveness of services, which are influenced by culture, customs and socioeconomic factors (Sen et al., 2024). State agricultural extension offices take on a significant role in supporting capacity development, including raising awareness of regulatory changes and facilitating technology transfer, which may support compliance with regulations. In Viet Nam, for instance, approximately 80 per cent of communes had access to staff

in agricultural, forestry and fishery extension in 2021, with 8,376 staff dedicated to these services throughout the country. This was complemented by other infrastructure, including that nearly 95 per cent of communes had loudspeakers to support the relaying of “timely and regular information on political, economic, social situation and national security” (GSO, 2021). In the Lao PDR in fiscal year 2019/2020, 61 per cent of villages reported having development projects with government, private sector and international partners, with many being directly or indirectly providing extension services for agriculture and food production (Government of Lao PDR, 2021b).

Non-state actors also have a prominent role in providing extension services, including raising awareness of regulatory changes and supporting compliance. The non-state actors include those from the private sector and intermediaries as well as national and international development organizations. The various sources of extension services can facilitate cooperation between the different stakeholders, but it also comes with challenges. For instance, if it is a project type of support, then it could lead to questions of sustainability when the project ends and to issues of siloed services (Nickens et al., 2023). This highlights the need to ensure that the appropriate agency within the central government is proactive in coordinating these projects. Additionally, the top-down nature of many extension services may lead to the sidelining of smallholders’ actual priorities and promotion of the ones that are viewed as the most important by decision-makers located in a nation’s capital (Tiemann & Douxchamps, 2023).

Consideration also needs to be given to how initiatives address the differences in focus and current and potential future requirements of regulatory provisions in various consumer and processing countries, as well as in the production countries. One example is cassava, which is not included in the EUDR or other similar regulations. There is growing pressure for its inclusion in the EUDR review scheduled for 2028, along with maize and sugarcane. This is promoting calls for ensuring that all agricultural commodity supply chains are ready to comply. In Cambodia, for example, strategies on increasing income from cassava (National Cassava Policy 2020–2025) do not appear to acknowledge the need to ensure a deforestation-free supply chain, even though it is recognized as being grown in “newly deforested plots” (MOC, 2020). This lack of foresight may create challenges for smallholders in the future.

Traceability

Governments in the region have made efforts to improve traceability within supply chains. This includes for timber, such as Viet Nam’s timber legality assurance system (VNTLAS) and Indonesia’s timber legality assurance system (Sistem Verifikasi Legalitas Kayu, or SVLK) and its 2024 iteration, SVLK Plus, which has a stronger geolocation component and which, in theory, supports EUDR compliance. Additionally, there are similar efforts by the governments of Indonesia and Malaysia to support palm oil sustainability certification schemes and their traceability components.

Some countries are also making traceability commitments that cut across all the main agricultural commodities. Thailand has committed to having traceability in supply chains by 2037, with efforts also by state agencies, such as the Rubber Authority of Thailand (see the following potential good practices section). Viet Nam's Agriculture and Rural Development Strategy for 2021–2030, with a vision to 2050,¹⁹ recognizes the importance of connecting actors in the supply chain according to the principles of transparency, responsibility and equitable benefit-sharing. The Strategy also emphasizes the need to ensure transparency and assurance of product traceability in supply chains, including through digital platforms.

These initiatives in producer countries often focus on smallholders, recognizing their importance to the supply chains. The Roundtable on Sustainable Palm Oil (RSPO), for example, has an Independent Smallholder Standard²⁰ to address the challenges to obtaining certification, including being able to comply with traceability requirements. The Roundtable, together with the private sector, also provides capacity-development support to ensure smallholder compliance.

The ability of smallholders to comply with the traceability (and regulatory) requirements should be seen in the context of governance issues in many countries in the region: Countries with low levels of accountability, transparency, participation and so on will have lower capacity to develop or create an environment for the development of the required traceability schemes. This will be an even bigger challenge in remote locations.

Potential good practices

There are numerous initiatives by state and non-state actors working to support smallholders to increase their livelihood options on their land holding in a sustainable manner. Many of these initiatives stem from programmes that were developed in direct response to the changing FRC-related regulatory environment. They include those directly supported by the European Union, such as the Team Europe Initiative on Deforestation-free Value Chains.²¹ In Southeast Asia, Team Europe's work includes the Sustainable Agriculture for Forest Ecosystems (SAFE) Project, which is dedicated to the preservation of forests through the promotion of sustainable agrifood systems. The SAFE Project supports the transition to deforestation-free, sustainable and legal value chains.²² One objective of the SAFE Project is to support 20,050 smallholders in five focus countries, including Indonesia and Viet Nam, through increased knowledge of sustainable production practices.

There are also various tools developed by companies and non-governmental organizations for verifying traceability. These include iov42's Interu, which is a "decentralised, tamper-proof platform which provides traceability without compromising privacy",²³ and the Preferred by Nature Certification²⁴ and Sourcing Hub.²⁵ In addition, there are voluntary sustainability standards that align with FRC regulations to varying degrees. These include those for palm oil (such as ISPO, MSPO and RSPO) and for rubber and timber (FSC and PEFC). There are also initiatives driven by state agencies in many producer countries, including as part of regulations and national strategies. Some of these are elaborated on later.

This section features five potential good practices. They need to be considered in several ways, including that they are *potential* good practices – on paper they appear impactful, but there is still a challenge in determining their sustainability. They also cut across issues – for example, access to finance as well as markets. Table 3 summarizes the problem that the potential good practices are seeking to address, the action, the impact and the lessons from these practices. Table 4 then further unpacks the lessons learned.

Table 3: Overview of selected potential good practices for smallholders to develop their livelihoods in compliance with regulatory requirements

	Access to finance	Compliance and legality	Data management	Market access	Traceability
East Africa – Aceli Africa Initiative	X			X	
	<p>Problem: Small and medium-sized enterprises (SMEs) in East Africa face numerous challenges to accessing finance.</p> <p>Action: Aceli Africa offers incentives to financial institutions to provide services to SMEs.</p> <p>Impact: SMEs are more able to invest in their enterprise, which leads to more stable markets for smallholders.</p> <p>Lesson learned: Aceli Africa's focus on marginalized smallholders is potentially significant, bridging gaps that were perceived to be too costly in the past.</p>				
Ghana – Cocoa national traceability scheme		X	X	X	X
	<p>Problem: Cocoa smallholders in Ghana experience many challenges, including meeting regulatory requirements.</p> <p>Action: The Ghana Cocoa Board (COCOBOD) is developing a nationwide system to support smallholders to meet domestic and overseas regulatory requirements.</p> <p>Impact: On paper, the system will ensure EUDR compliance related to the cocoa produced by smallholders who are included in this system.</p> <p>Lessons learned: A lesson thus far is the need to ensure that government agencies are coordinated in their approaches to directly and indirectly support smallholders.</p>				
Thailand – AGRIAC Global	X		X	X	X
	<p>Problem: Rubber smallholders in Thailand faces constant challenges in terms of securing a reliable income, making self-investment and market value added.</p> <p>Action: ARIAC helps rubber smallholders to obtain FSC certification by providing support to empower them to improve their decision-making and market access. One component is providing an accessible traceability system.</p> <p>Impact: Indications suggest increased capacity and income for smallholders, including through FSC certification.</p> <p>Lesson learned: Addressing legal tenure of the smallholders is necessary.</p>				
Thailand – Rubber Authority of Thailand (RAOT)	X		X	X	X
	<p>Problem: The considerable number of rubber smallholders throughout Thailand creates challenges for awareness-raising and meeting capacity-development needs.</p> <p>Action: RAOT is working to develop a database of all the rubber producers in the country.</p> <p>Impact: RAOT has mapped approximately 79 per cent of the country's rubber plantations. The data are maintained in a centralized database. This facilitates meeting EUDR requirements and supports the targeted delivery of the capacity-development programme.</p> <p>Lessons learned: Challenges lie in how RAOT and the database consider smallholders without a legal tenure certificate.</p>				

	Access to finance	Compliance and legality	Data management	Market access	Traceability
Viet Nam – IKEA, WWF and Vietnamese government		X	X	X	X
<p>Problem: There is a need to ensure that smallholders can meet and communicate the legal and certification requirements for timber production.</p> <p>Action: IKEA worked with WWF, government agencies and smallholders to support the creation of cooperatives to help improve efficiency and effectiveness of smallholder production to meet FSC requirements.</p> <p>Impact: Increased capacity of cooperative smallholder members and price premium through certification for participating smallholders.</p> <p>Lesson learned: The costs (time and money) of FSC compliance were viewed by some smallholders as too high when compared to the benefits. There is a need to ensure that tenure rights are clarified.</p>					

Access to finance

Potential good practice: Aceli Africa Initiative,²⁶ which works to ensure that the financial sector in East Africa supports a more inclusive agriculture sector, with direct focus on small and medium-sized enterprises (SMEs) and an indirect one on smallholders.

The problem and/or opportunity: The rationale for the initiative is partly based on agricultural SMEs' lack of access to financial services. The main stumbling blocks are the perception among providers of financial services of the risks and costs of providing services to these SMEs.

Objectives and process: Aceli Africa is working to address the gap, targeting the “least served and most impactful segments” of the agriculture sector. It works to facilitate the connection between SMEs and financial service providers, which includes guaranteeing 2–8 per cent of the loans. It also compensates some of the loan providers' costs in dealing with a highly disaggregated market where many of those seeking loans have limited experience meeting the requirements. Aceli Africa targets landscapes that are less productive or are not traditionally viewed as strong suppliers due to their remoteness. This includes providing increased subsidies to financial service providers operating in these landscapes (Aceli Africa, 2024a).

The initiative focuses on borrowers who “meet criteria related to gender inclusion,²⁷ food security and nutrition”. Aceli Africa also provides technical assistance to SMEs at the pre- and post-investment stages. Its use of digital technologies facilitates outreach to remote communities. It is aiming to mobilize USD 1.5 billion in private sector lending to SMEs in the agriculture sector in East Africa by 2030.

Aceli Africa's emphasis on gender inclusion includes developing the capacity of lenders so that they adopt a gender lens to their service provision. This starts with awareness-raising and moves into adapting a lending institution's strategy, products and working practices to support women-owned and gender-inclusive

SMEs in the agriculture sector. These SMEs are often vital providers to and/or buyers from smallholders in the region. Additionally, Aceli Africa has a monitoring system with an eye on informing policy-making, as well as facilitating upscaling.

Impact: As of March 2024, 38 commercial banks and investors had signed on to Aceli Africa's financial incentives programme and had issued 1,567 loans totalling the equivalent of USD 152 million. Since its launch in 2020, nearly two thirds of the loans that it had facilitated had been made to first-time borrowers. Through these loans, market access for nearly 1 million smallholders has been secured (Aceli Africa, 2024b), 34 per cent of which were women.

An impact assessment conducted by Aceli Africa and its partner highlighted the improved services offered to smallholders by the loan recipients. The SME owners receiving loans also reported improvements in business operations (95 per cent of respondents, of which 65 per cent reported significant improvement) and revenue (96 per cent, with 48 per cent reporting significant improvements) (Aceli Africa & 60 Decibels, 2023). Aceli Africa continuously reviews its operating practices to support gender-inclusive SMEs. This includes lowering the minimum loan size and annual revenue threshold – women-led SMEs are, on average, smaller and less inclined to request large loans. The loan recipients were positive towards Aceli Africa regarding the paperwork demands (88 per cent of respondents) and collateral requirements (86 per cent), with 76 per cent stating that they received their loan within two months.

The impacts thus far are largely due to simplifying the loan process and providing security for the loans, as well as recognizing the potential income and profits from the sector. This has enabled SMEs and smallholders to mechanize their practices and become more effective and efficient in their operations. The promotion of partnerships also stands out, with Aceli Africa, lenders and SMEs working and learning together.

There are numerous other initiatives that directly and indirectly support smallholders' access to finance that have appropriate focus on inclusive practices, including:

- Rabobank's Acorn initiative, which works to empower smallholder farmers globally, supports them to transition to sustainable agroforestry practices. Acorn then facilitates the measurement of the impacts on biomass and, where appropriate, supports the issuing of carbon credits. Of the 8.5 million euros (USD 8.95 million) total revenue from the sale of the credits thus far, 80 per cent of it has flowed back to the farmers. Since its establishment in 2020, Acorn has supported nearly 380,000 farmers (representing approximately 395,000 hectares) in Africa, Central and South Asia and Latin America.²⁸
- Root Capital²⁹ is working to redress the funding gap facing women-led agricultural SMEs that support women smallholders. The focus countries include Indonesia, Philippines and Viet Nam. Root Capital works to identify and then mitigate the risks in providing loans, especially for first-time borrowers. One

of the benefits of Root Capital is that it facilitates co-investment by the private sector.

- RECOFTC's Trees4All facilitates sponsorship from individuals and entities to enable smallholders to plant trees to supplement their income. The sponsorship for the smallholders comes with support, including capacity-development ranging from communication to technical skills on silviculture. The project also uses a smartphone app to support smallholders. Since its first grant in 2022, Trees4All has received funds from 1,600 sponsors, raising 1.9 million Thai baht (approximately USD 55,120) as of 30 November 2024, with 12,532 trees planted and involving 97 farmers.³⁰
- RECOFTC's Partnership for Forestry and Fishery Communities (PaFF) initiative in Cambodia worked to enhance financial security while supporting sustainable forest management. This encompassed building up capacity through which communities established savings groups: 141 to date have generated USD 1.4 million in savings. These groups encourage members to contribute regularly to a communal fund, which is used to provide low-interest loans for livelihood activities, such as sustainable agroforestry, non-timber forest product harvesting and reforestation efforts. By reinvesting earnings into forest-friendly practices, the groups enable communities to reduce pressure on forest resources while generating income. Inclusivity was a priority, with women, indigenous groups and low-income families actively participating, thus ensuring equitable access to financial benefits and decision-making. PaFF supported 195 community-based natural resource management groups, involving 35,174 families managing 221,184 hectares of community forests (including community-protected areas and community fisheries).³¹

The examples from Aceli Africa, Acorn and Root Capital, as with the other potential good practices, trigger many questions, including on sustainability when the funding from the donors ends³² and how they address the statutory tenure rights of loan recipients. The example of PaFF Cambodia provides insight into how savings groups and funds established early in the initiative prepared communities to manage funds effectively. Clearly more research is needed, as with the other potential good practices shared here, on the long-term impacts for loan recipients and SMEs and particularly on the more marginalized groups. Nevertheless, these examples have many short-term positive aspects, especially in providing clear income opportunities for smallholders.

Data management

Potential good practice: RAO in Thailand oversees the world's largest production of natural rubber. Approximately 1.7 million smallholders produce most of the rubber in the country (Table 1).

The problem and/or opportunity: The sheer number of rubber smallholders in Thailand creates a challenge to ensuring that they are aware of good agricultural practices, informed of market and regulatory changes and have the capacity to comply – with data and information management at the core of this. The most recent example is to ensure that the country’s rubber smallholders can comply with the EUDR.

Objectives and process: RAOT, which is housed within the Ministry of Agriculture and Cooperatives, is working to develop a database of all the rubber producers in the country. The agency recognizes the value of having a system in place to understand the particulars of smallholders. RAOT’s commitment to facilitate data management is significant in many ways, including in identifying smallholders who are unable to demonstrate the legality of their land holding.

RAOT, which was established in 2015 through an Act of Parliament, has a mandate to ensure that Thailand remains a world leader for natural rubber production and processing. This mandate includes coordinating the administration and management of the country’s natural rubber production.

RAOT has been proactive in ensuring that Thailand as a country and its smallholders are not penalized through market loss if they are unable to comply with the EUDR. But in fact, it has actually increased market access and possible price premium through compliance. It has built on its work since its establishment to support sustainable natural rubber production. Other relevant initiatives include the Thai Rubber Trade platform, which facilitates the sale of natural rubber and integrates a traceability system.

Impact: As of March 2024, RAOT had mapped approximately 79 per cent of the country’s rubber plantations (roughly 3.1 million hectares), collecting geolocation information on 1.98 million rubber plots. The data are maintained in a centralized database (EFI, 2024d).

RAOT is also working to ensure that smallholders can get support with the sustainability of their plantation management and obtain a price premium through, for example, certification. RAOT’s efforts reflect the need to adhere to market requirements.

RAOT’s work, however, experiences numerous challenges, including that smallholders must possess a land title to be included in the system. This is a substantial issue, considering that approximately 290,000 households are cultivating rubber in nearly 810,000 hectares of national reserved forests. Most of these households would not have a land title (Gritten & Khunrattanasiri, 2023) and would struggle to get a permit for rubber tapping.

Additional challenges include the importance of intermediaries in the rubber supply chain in Thailand buying the rubber latex from smallholders and then selling it further up the supply chain, including to processors. These intermediaries are concerned about the sharing of data on their suppliers and may have challenges to

ensuring that regulation-compliant rubber latex is not mixed with non-compliant latex (EFI, 2024d; Gritten & Khunrattanasiri, 2023).

An additional concern is on data protection and the rights of those sharing their data. Clarity is needed on if and how the data are made public, and if illicit activities are found, what the response would be, which is especially important considering RAOT is a state agency and has a mandate to ensure that the rubber supply chain is legal.

The data management and governance issue has been considered by various bodies, including CABI and the Open Data Institute in their Data Sharing Toolkit, which provides practical guidance and considerations, such as ensuring that individuals' rights are protected in data collection, management and sharing.³³ The EUDR has data security safeguards (stemming from the EU's General Data Protection Regulation [GDPR]³⁴), but there are doubts over their sufficiency.

Other examples of potential good practices:

- **Lao Land Reg:** Many countries in Southeast Asia are investing in a management system to monitor land tenure. Lao PDR, for instance, has set up the Lao Land Reg³⁵ digital database of cadastre, which is the public record of real estate that documents the physical status and legal rights of land and buildings in a country. The Lao government and its partners are working to ensure that this database is integrated with other relevant systems, including the Land Use Information System,³⁶ the National Forest Monitoring System³⁷ and the Provincial Deforestation Monitoring System.³⁸ Coordination among these systems is particularly important due to budget constraints facing the Lao government (IMF, 2024) and the potential benefits from these systems.
- **Open Foris Ground:** This is a new open-source mobile application developed by FAO to help smallholder farmers in monitoring land and resource management. The app is designed to be easy to use, with customizable forms that allow farmers to collect geospatial data on their land, crops and forests independently. It works offline, which is important for farmers in remote areas with no internet access. With this data, farmers can monitor changes in soil health, crop growth or forest cover and use the insights to improve their planning of farm practices. For example, cocoa farmers in the Ivory Coast use the app to track deforestation-free practices and share the data within their cooperatives for improved transparency and monitoring.³⁹ These examples, as well as the RSPO (market access and partnerships) and the Ghana cocoa traceability system (on regulatory compliance), both featured further on, are clear top-down approaches with formal mechanisms to ensure that smallholders can contribute to decision-making and access grievance mechanisms. One fundamental question that runs through these kinds of systems is governance, including how data are used, transparency and review.

Market access and partnerships

Potential good practice

IKEA, WWF, government agencies and smallholders, which are striving for livelihood development, market access and reliability in wood production.

The problem and/or opportunity: Increased pressure to ensure that timber and wood fibre come from sustainable sources due to continued deforestation and degradation in Southeast Asia prompted IKEA in 2017 to announce that by 2020 it would require all its wood to originate from sustainable sources, whether FSC-certified or recycled. This presented both an opportunity for smallholders to have a reliable buyer (if they could meet certain criteria) and challenges, including having to adapt their management practices to ensure compliance. In response, IKEA and WWF formed a partnership to ensure that forest commodity supply chains in Central Viet Nam were sustainable, while ensuring that smallholders were able to remain in and benefit from these supply chains.

One response was the creation of cooperatives. For example, the Hoa Loc Sustainable Forestry Cooperative was established in 2018 in Viet Nam and brought together smallholders and seedling production and timber processing companies in Thua Thien Hue Province (WWF, 2020). The rationale was to ensure they met the IKEA requirements while also developing other market opportunities responsive to their having FSC certification along their supply chain, from nursery to the IKEA facilities.

Impact: A review by Forest Trends and VIFORES (2018) found various impacts from the smallholders' compliance with the IKEA sustainability requirements, including that smallholders had benefited from the FSC price premium – at 10–18 per cent higher than non-certified timber. The smallholders also benefited in other ways: having a reliable buyer and an increased positive profile on national and international platforms. Additionally, IKEA benefited by meeting its sustainable sourcing requirements and by having a good case for its reporting. WWF benefited from the positive messaging, as did the national and subnational Vietnamese government agencies. The initiative further strengthened the government's commitment to clarify tenure arrangements for smallholders. The review also found that cooperatives were effective in reducing transaction costs for smallholders and companies.

The review, however, also identified numerous challenges in the short term and beyond, including that many smallholders were hampered by the small size of their holding (at an average of 1–3 hectares), the often unclear tenure arrangement and their limited capacities. The FSC price premium was also questioned because the costs of certification requirement compliance were borne by the wood processors, thus eating into their profit margin. Other research (Nambiar, 2021) underlined the need to balance the complexity and costs of managing FSC requirements with the potential economic returns for smallholders and the other environmental and social

benefits. Too often, the costs were viewed as too high, with smallholders often failing to make fully informed decisions. This emphasizes the need to ensure that smallholders have a participatory and informed role in their supply chains.

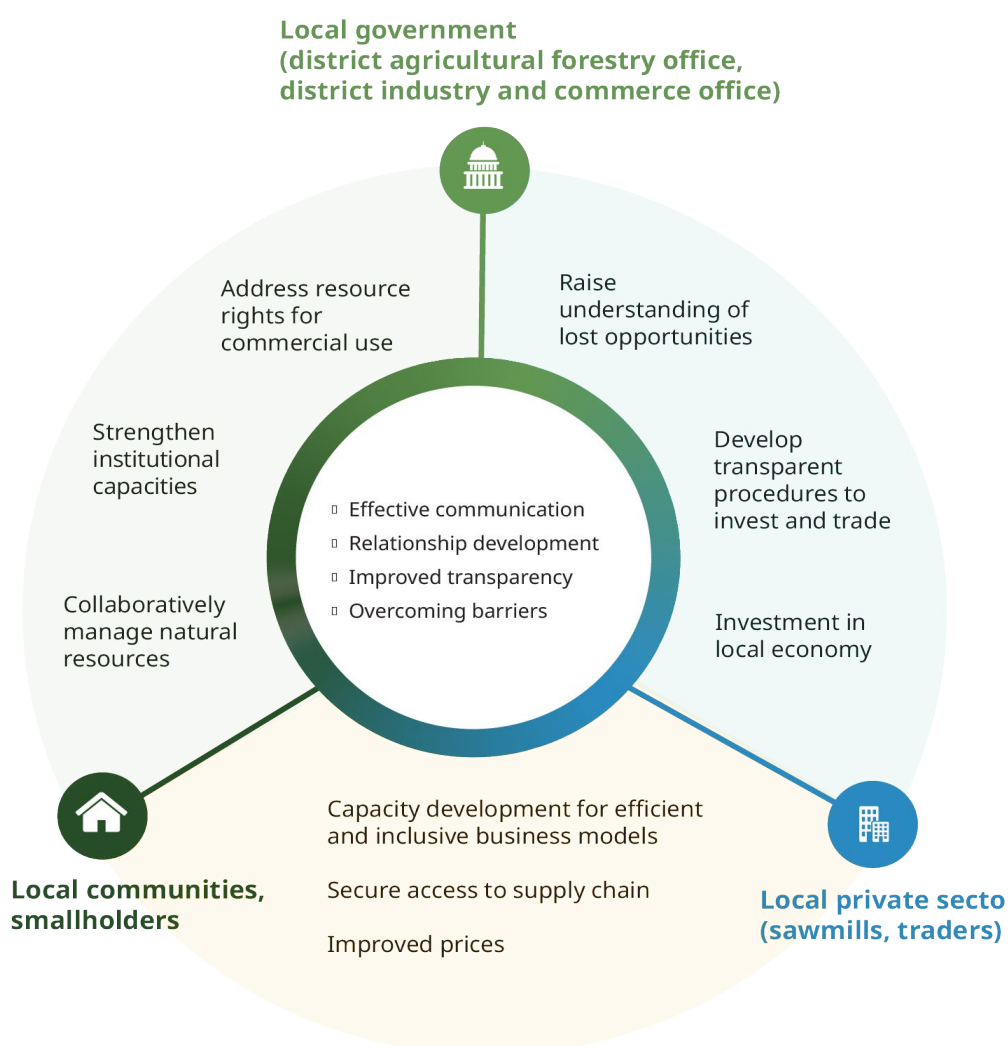
Other potential good practices from Southeast Asia:

- Aratay Coffee Cooperative in Son La Province, Viet Nam. Aratay concentrates on sustainability and quality coffee by aligning with voluntary sustainability standards (such as the Common Code for the Coffee Community [4C] and the Rainforest Alliance Certified Coffee) and regulatory requirements (such as EUDR). Its 14 members are all women and from an ethnic group. Aratay grew out of a village savings and loan association and continues to provide interest-free loans and capacity-development to its members, such as help with market access and climate-smart agriculture (Aratay Coffee Cooperative and SRD, 2024).
- Biota Coorg Farmer Producer Company Ltd in Western Ghats, India supports 120 smallholder members to market their coffee. This entails sharing resources and knowledge, ensuring quality control and meeting the Rainforest Alliance certification standards. The initiative also works to preserve the region's high level of biodiversity, including using online tools (such as Global Forest Watch Pro) to ensure that the coffee is deforestation-free. Biota Coorg is confident that the coffee it markets is EUDR compliant (Biota Coorg Farmer Company, 2024).
- Metkasekor⁴⁰ (translated as Farmer's Friend) in Cambodia works to help smallholders who lack information on good agricultural practices, have limited access to finance and technology and who struggle with the marketing of their products. Metkasekor's approach is to facilitate private sector investment and collaboration between government agencies, the private sector, agricultural cooperatives and smallholders. This includes smallholders' access to machinery and awareness-raising of market opportunities and regulatory requirements.
- RSPO in Indonesia works to increase the transparency in supply chains and, if need be, remove intermediaries and thus, at least in theory, a cost for smallholders. The Roundtable recognizes that intermediaries may not be motivated to participate in a transparent supply chain. This work has been well received by smallholders and buyers (TFA, 2024) due to their increase in income.
- Rubber Processing and Marketing Unit, also in Indonesia, regards intermediaries as an unnecessary part of a supply chain. The Unit includes 121 smallholders from four villages in West Kalimantan Province and facilitates the exchange of insights on improving rubber production and marketing. It is a new initiative, but one with a clear goal to increase smallholders' income in a sustainable manner (Rubber Processing and Marketing Unit and Sejahtera Cooperative and Tropenbos, 2024).

These potential good practices highlight various issues, such as the importance of having an environment conducive to equitable partnerships (Figure 1). For example, partnerships between smallholders and the private sector that lack an equitable distribution of costs and benefits will not have sustainable outcomes.

Like all the other potential good practices, the RSPO and the Rubber Processing and Marketing Unit examples are worth further exploration – particularly the apparent desire to remove intermediaries from supply chains. Intermediaries take potential income from smallholders and tend to disrupt attempts to bring transparency to a supply chain. It is likely that many intermediaries have a critical role and service for smallholders and other market actors, but in some cases, their presence in a supply chain may not be efficient or effective.

Figure 1: Example of processes and benefits from partnerships between local authorities, communities and/or smallholders and the private sector



Source: RECOFTC. (2021). Facilitating agreements for community-private sector partnerships in forest landscapes in Lao PDR.

The potential good practices also highlight the value of cooperatives. A smallholder's membership in a cooperative can help mitigate some of the issues raised in the challenges and opportunities section by providing a way to share costs with other members, such as for machinery. Cooperatives also provide more leverage when it comes to marketing members' products. Additionally,

cooperatives, by virtue of their size, are efficient conduits for sharing information with their members, organizing capacity-development programmes and assisting in managing the regulatory requirements and the voluntary sustainability standards. Cooperative members will have different capacities, including in their ability to comply with regulatory requirements. The RECOFTC (2024b) assessment of smallholders' readiness for the EUDR provides a good illustration of the importance of smallholder cooperatives and the challenges they may face if they lack strong leadership and support from state and non-state actors as well as reliable market access (ASEAN Sectoral Working Group on Agricultural Cooperatives, 2018).

Regulatory compliance

Potential good practice: Ghana's national approach, overseen by the Ghana Cocoa Board (COCOBOD), facilitates regulatory compliance for its cocoa exports.

The problem and/or opportunity: Cocoa smallholders struggle with declining yields, loss of land and other challenges, especially in remote areas. The additional requirements for compliance with, for example, the EUDR, are a significant concern.

With the threat of the country's exclusion from some markets, the Ghanaian government, under the leadership of COCOBOD and partners, is developing interlinked systems to ensure that its cocoa comes from legal sources. The systems – the Child Labour Risk Assessment Module, the Cocoa Management System, the Deforestation Risk Monitoring and the Ghana Cocoa Traceability System – were designed for meeting the EUDR requirements, but they also support compliance with other regulations in place or in the pipeline.

A vital component, like in the RAOT example under data management, is the mapping of cocoa growers through the Cocoa Management System; more than 1.2 million hectares (792,954 farmers) have been mapped out of a total of nearly 1.4 million hectares. The mapping is helping the government, through COCOBOD and the Forestry Commission, respond to tenure issues among the cocoa smallholders. The development and operationalization of these systems cost approximately USD 50 million (EFI, 2024c).

Ghana is in a unique position because COCOBOD is the sole seller of cocoa beans in the country. Thus, it is a good example of a government taking a proactive approach to safeguard smallholders' access to markets, including the EU market.

Impact: According to COCOBOD, the Ghana Cocoa Traceability System is confident of meeting the data requirements for the EUDR. This will provide a degree of market security for many of the smallholders and, potentially, a price premium for their products because they are better placed than cocoa smallholders in other countries to meet the regulatory requirements. The proactive approach, however, comes with challenges linked to its top-down nature, including awareness and capacity gaps among some farmers and issues related to coordination within and

between government agencies, as well as data transparency and related reliability (EFI, 2024c).

Additional potential good practice:

- Indonesia's national programme to clarify tenure of rural communities, including smallholders, through social forestry (with a target of 12.7 million hectares by 2030) and agrarian reform (at 9 million hectares of land slated for communities and smallholder farmers through land registration and titling by 2025). The programme builds on these approaches to also support sustainable livelihood development (such as with Integrated Area Development and KUPS (Social Forestry Enterprise Development) (Supriyanto et al., 2024).

Although these initiatives are top-down in many ways, their concentration on rights and livelihood development and their having a clear and accessible monitoring mechanism help to mitigate some of the risks.

Traceability

Potential good practice: AGRIAC Global Co. Ltd., which takes a holistic and partnership approach to help rubber smallholders increase their market access.

The problem and/or opportunity: According to the AGRIAC website, the rubber supply chain in Thailand contends with many challenges that undermine sustainability efforts. These stem from an imbalance in the supply chain, with smallholders bearing much of the costs and risks while their income is continuously squeezed.⁴¹ Additional issues include how smallholders can be part of a traceable supply chain, which is a must for complying with regulatory and voluntary sustainability standards requirements.

Objectives and process: AGRIAC helps rubber smallholders to obtain FSC certification through a package of support to improve their decision-making and their market access. This entails a capacity-development programme on managing FSC requirements, connecting suppliers with buyers and providing traceability through the AGRIAC App (TRAZTRU) to ensure transparency along the supply chain. The traceability component of TRAZTRU includes the recording of boundaries of a land holding and product movement along the supply chain.

Impact: Since its establishment in 2019, AGRIAC has helped more than 4,200 smallholders (representing 8,464 hectares of rubber plantation) gain market access and generate total revenue for its members of 641.5 million Thai baht (USD 18.56 million).⁴² AGRIAC pays a price premium to its smallholder members of 3 baht a kilogram of FSC certified rubber sold, or approximately 13,500 baht per hectare (USD 390).⁴³

The benefits of AGRIAC's work with smallholders is their new capacity to fulfil large orders, which were previously beyond their means. AGRIAC also has

helped to reduce the need for intermediaries, which means more income for the smallholders. In a case study, AGRIAC and its members also highlighted the environmental benefits, including from reduced use of chemical fertilizers (AGRIAC Global, 2024).

Other potential good practices:

- TraceThai targets the low confidence among consumers in Thailand in organic products and their limited market penetration. Its work led to government support for organic farmers through the development of a reliable national traceability system that provides confidence to buyers and enables producers to market their products.⁴⁴ The national traceability system uses a blockchain network, which TraceThai views as the most reliable, transparent and secure. Consumers at home and abroad can use a QR code or lot number to access information on the origin of products.⁴⁵
- The Thai government is heavily investing in digital infrastructure improvements that will support smallholders, including ensuring they are registered to receive updates on market and regulatory developments. The Digital Farmer Registration Book and Farmbook enable smallholders to register their land holding. They can be downloaded free of charge to a mobile telephone or tablet. Farmers are requested to review and update their data in the system annually. The government, specifically the Department of Agricultural Extension, uses this information to support implementation, awareness-raising and enforcement. This complements other government initiatives, such as the national single window to facilitate efficiency in trade and the National Strategy (2018–2037) commitment to traceability in supply chains “to reduce forest encroachment and deforestation” (RTG, 2018).

These examples from Thailand reflect actual and potential impacts. As with the other examples, there are several questions to consider, including getting the balance between top-down and bottom-up processes, but also addressing the size of the issues to be addressed. But with approximately 770,000 households without legal tenure cultivating various crops on 2.15 million hectares of national reserve forest (Gritten & Khunrattanasiri, 2023), supporting their access to tenure is a must – or they will continue to be left behind.

Lessons learned from the potential good practices

The lessons (Table 4) from these various potential good practices can be used to develop similar initiatives or to scale up existing ones. The examples included here are not covered in detail, and several of them have not been independently reviewed or have not been active for enough time to produce real impact. Nonetheless, these lessons are worthy of consideration and further elaboration.

Table 4: Lessons learned from the potential good practices highlighted in Table 3

Balance between top-down and bottom-up initiatives	There are various tools and mechanisms being developed by companies and non-governmental organizations in Europe and North America to support compliance with the EUDR. Although they may reflect and facilitate managing regulatory requirements regarding enforcement when placed in these markets, they are often not practical for smallholders. The balance must consider policy and system development, implementation and enforcement at the national level while also truly addressing the needs and rights of smallholders in a systematic and inclusive manner. An additional consideration is the issue of weak governance. Initiatives that are top-down, with limited participation and transparency, open themselves to challenges of land grabbing, corruption and so on.
De-marginalize	Initiatives must actively seek to address marginalization of smallholders in remote landscapes with limited access to infrastructure and markets, for example, but also groups that may be more traditionally marginalized, such as women. These marginalized groups are also the most vulnerable to shocks, be they market-related or political and environment.
Future proofing	Future proofing should be at the core of all initiatives to support smallholders. Building for the future covers many aspects, including developing a robust monitoring system, understanding the diversity of smallholders (and their capacities and needs) and developing resilience for future changes and shocks.
Holistic approach	The good practices with the most potential would likely be those that meet all or most of the criteria (access to finance, compliance and legality and so on (see Table 3). However, demonstrating legal tenure is a must for meeting the other criteria.
Partnership approach	Partnerships between smallholders, the private sector and governments in producer countries is arguably the key to improved compliance. The need to ensure there is coordination between the different initiatives directly and indirectly supporting smallholders is also vital. The importance of Western donors should not be downplayed, but there is a clear concern regarding sustainability. What happens when the donor support ends? Is there a realistic exit strategy?
Sustainable income	Keeping in mind that smallholders are the main beneficiaries, a return on their investment would arguably be their main motivation for engagement in any external initiative.

Ways forward

The overview of the challenges and opportunities that smallholders endure and the examples of good practices that have the potential to support them illustrate many hurdles. This picture also provides avenues to pursue to ensure that smallholders can thrive in an increasingly regulated market.

Ways forward should seek to ensure that, as a minimum, no smallholders are left behind. Plans must also strive to ensure that the regulations can be transformative – in their development, implementation, enforcement and review. The transformative aspects must centre around smallholders having clear and strong statutory tenure rights and sustainable livelihood options based on diverse income sources, strong market access that builds on partnerships, high levels of awareness and the ability to access funding to ride out tough times and to invest in opportunities.

If no smallholder is to be left behind, then the estimated 6–64 per cent of smallholders in Southeast Asia who may be excluded from markets that require proof of legality must be addressed. Although there are approximately 100 million smallholders in Southeast Asia, a programme to help them manage and benefit from FRC regulations such as the EUDR should focus on:

- Smallholders who are challenged to demonstrate the legality of their agricultural products and that their products are deforestation-free.
- Smallholders who are outside core production areas.
- Smallholders located in areas with above-average levels of deforestation since 2020.
- Areas where a large share of smallholders lack tenure.
- Marginalized smallholders, including women, youth and those from ethnic groups.

Targets under any programme to support smallholders should build on global and national initiatives, including those linked to the Sustainable Development Goals (such as SDG 1.4), and national initiatives such as tenure reform programmes.

The development of a theory of change and associated plan of action would be a key activity for strategic organizations, civil society groups and the private sector as well as relevant state organizations that work to support smallholders in the region. This should be done in an inclusive manner, with a practical work plan, articulated roles and responsibilities and a dedicated budget. Activities can start with an improved understanding of the current situation at the regional, national and subnational levels and further elaboration of the potential good practices, with introduction and upscaling where relevant. This can include:

- Assessing, including through mapping, the ability of smallholders in Southeast Asia to comply with regulations (a baseline and needs assessment).
- Assessing, including through the mapping of systems to ensure traceability within supply chains of nationally important agricultural commodities (baseline and needs assessment).
- Mapping all initiatives that directly or indirectly support smallholders to comply with FRC regulations.
- Finalizing the review of potential good practices and fundraising for scaling up those with the highest potential.
- Conducting nationwide and targeted capacity-development campaigns for smallholders on the domestic and international regulatory requirements for crop production and trade.
- Supporting relevant national technical working groups in ASEAN Member States (and Timor-Leste) to explore mechanisms to ensure that smallholders can adhere to and benefit from FRC regulations.

Additionally, consideration needs to be made of the milestones in the regulations, such as the EUDR. The December 30 deadline in 2025 will not likely move, but much work needs to be done to ensure that smallholders are not excluded from supply chains of which they once were a part. Otherwise, they will struggle to re-enter those supply chains. This requires embracing medium- and long-term commitments, starting from leaving no smallholder behind.

Annexes

1. Additional data on the importance of smallholders in the production of selected agricultural commodities in Southeast Asia

Table A1: Share of smallholder area for selected commodities in Indonesia

	Cocoa	Coffee	Palm oil	Rubber	Sugarcane
Total area (hectares)	1,346,916	1,262,969	16,834,985	3,524,862	553,609
Smallholder area (hectares)	1,340,323	1,243,436	6,385,642	3,233,561	300,051
%	99.51	98.45	37.93	91.74	54.20

Source: Government of Indonesia, 2024.

Table A2: Share of smallholder area for selected commodities in Thailand

	Coffee	Palm oil	Rubber
Total area (hectares)	44,354	995,495	3,960,520
Smallholder area (hectares)	42,914	970,000	3,516,091
%	96.75	97.44	88.78

Source: Gritten & Khunrattanasiri, 2023.

Table A3: Share of smallholder area for selected commodities in Timor-Leste

Timor-Leste	Cassava	Coffee	Maize	Rubber	Wood
Total area (hectares)	37,912	31,856	91,611	64	41,390
Smallholder area (hectares)	18,239	20,800	35,699	45	19,866
%	48.11	65.29	38.97	70.31	48.00

Source: General Directorate of Statistics, 2020.

2. Access to financial services

Table A4 highlights data from the 2021 World Bank's assessment of global access to financial services. The assessment is based on a survey of approximately 128,000 people in 123 countries.

Table A4: Access to financial services and perceptions of access to funds in selected countries in Southeast Asia

	Bank account (% aged 15+), 2021	Account, rural (% aged 15+), 2021	Account, urban (% aged 15+), 2021	Borrowed to start, operate or expand a farm or business (% aged 15+), 2017	Producing emergency funds in 30 days: possible and not difficult at all, rural (% aged 15+), 2017	Producing emergency funds in 30 days: not possible, rural (% aged 15+), 2017	Worried about not having enough money for monthly expenses or bills: very worried, rural (% aged 15+), 2017
Cambodia	33	28	53	16	18	7	51
Indonesia	52	46	55	13	8	18	55
Lao PDR	37	30	69	8	14	24	45
Malaysia	88	88	88	ND	ND	ND	ND
Myanmar	48	ND	ND	16	ND	ND	ND
Philippines	51	ND	ND	15	ND	ND	ND
Thailand	96	ND	ND	9	ND	ND	ND
Viet Nam	56*	ND	ND	15	ND	ND	ND

Note: Data for Viet Nam are from 2022.

Source: World Bank, 2021.

3. Price changes for selected agricultural commodities and inputs

Price changes (Table A5 and Figure A1) and their impacts often depend on the commodity. For example, the commercial production of rubber latex can be done six to seven years after a tree is planted,⁴⁶ depending on climate and location. Forest Trends' comprehensive analysis of rubber production by smallholders in Cambodia from 2000 to 2021 (Forest Trends, 2023) reflects the challenges that smallholders face with fluctuating prices for selling their products. These fluctuations also partly determine their willingness and capacity to develop value-added opportunities and respond to changes in the regulatory environment and to external shocks. This is further hampered by the sense that smallholders have limited opportunity to affect how much they can get for their products (Tran & Touch, 2024).

A national census of agriculture in the Lao PDR, conducted by the government (Government of Lao PDR, 2021) found that the biggest challenge faced by smallholders was the low commodity price, reported by 54 per cent of villages, followed by lack of seeds, at 49 per cent, lack of irrigation, at 47 per cent, and lack of market, at 37 per cent. When considering the responses according to location, the smallholders located in upland and plateau areas were more likely to report constraints than their peers located in lowland areas. There was also a notable difference in responses by the smallholders in the upland and plateau areas compared to their peers in the lowland regarding access to technology and financial institutions as well as the State power grid. This suggests two tiers of smallholders – persons who are connected to infrastructure, extension services and markets and those that are not (Gritten & Khunrattanasiri, 2023).

Table A5: Percentage change in prices of selected agricultural commodities, 2005–2025

	2005	2010	2015	2020	2025
Cocoa	0.0	103.7	0.1	-24.4	153.2
Coffee, Arabica	0.0	70.6	-18.4	-5.7	50.4
Coffee, Robusta	0.0	55.8	11.8	-21.9	177.1
Palm oil	0.0	107.1	-28.9	13.3	14.4
Soybeans	0.0	62.8	-12.3	3.7	5.7
Maize	0.0	88.4	-8.7	-2.5	11.8
Beef	0.0	25.2	33.4	2.4	26.4
Sugar, world	0.0	113.3	-36.9	-4.4	62.5
Logs, Malaysian	0.0	36.9	-11.6	13.4	-24.7
Sawnwood, Malaysian	0.0	28.6	-1.8	-16.0	1.5
Rubber, TSR20	0.0	143.2	-59.6	-2.6	35.3

Note: 2025 is forecasted.

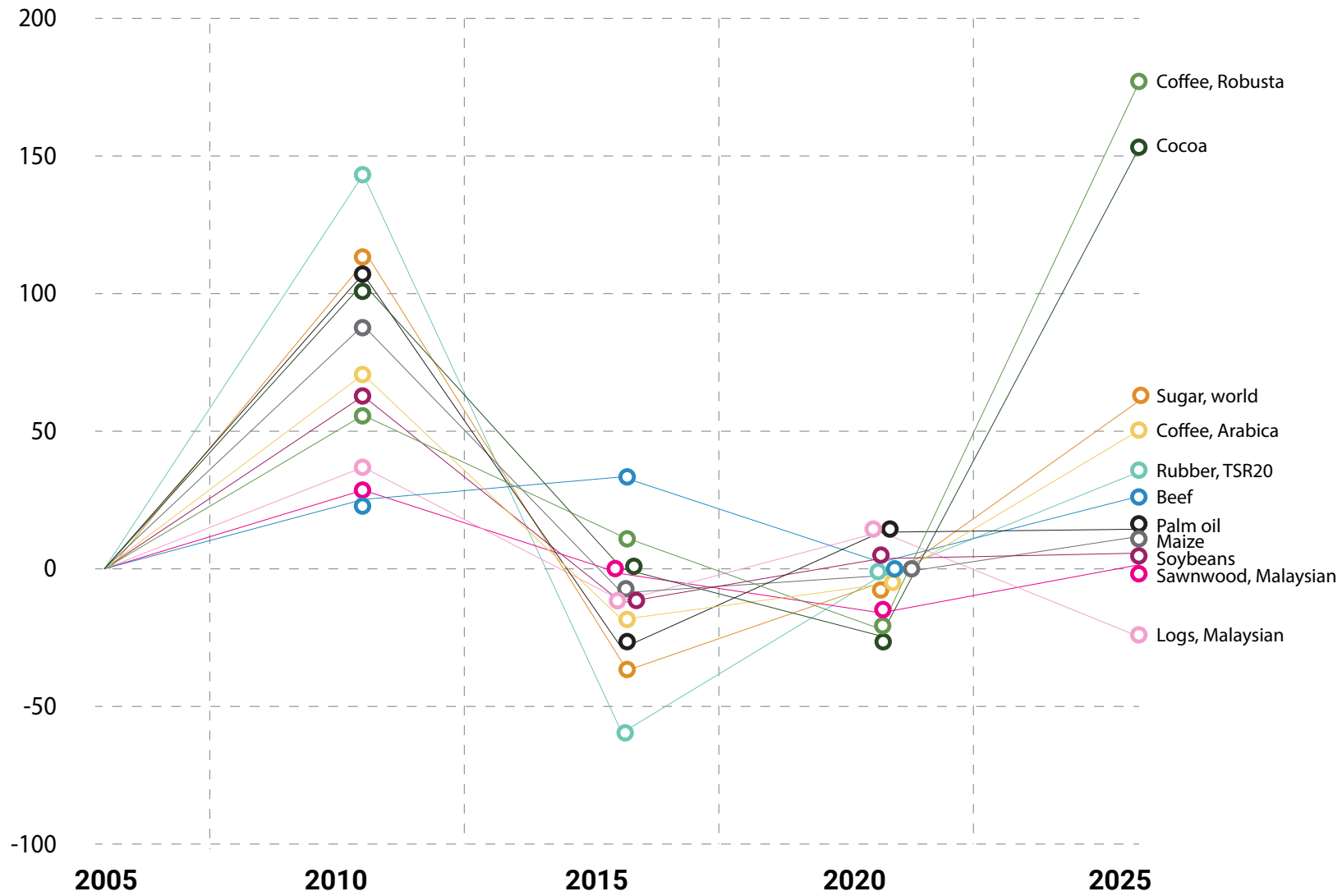
Source: Analysis of data from World Bank, 2024b.

Table A6: Percentage change in prices for selected inputs for production of agricultural commodities, 2005–2025

	Phosphate rock	DAP	TSP	Urea
2005	0.00	0.00	0.00	0.00
2010	139.35	101.26	89.54	32.92
2015	14.25	-8.72	-1.12	-3.80
2020	-36.79	-25.01	-29.81	-17.57
2025	110.38	63.24	60.35	46.22
% price change 2005 to 2025	263.64	124.88	110.94	54.13

Note: 2025 is forecasted.

Source: Analysis of data from World Bank, 2024b.

Figure A1: Percentage change in prices of selected agricultural commodities, 2005–2025

Source: Analysis of data from World Bank, 2024b.

4. Tenure indices

Table A7: Perception of tenure, formal documentation of tenure and reasons for perceived tenure insecurity in ASEAN Member States

	Perception of tenure		Adults with formal documentation, 2024 (% of adult population)			Reasons for insecurity by country, 2024 (% of adult population)			
	Insecure tenure	Secure tenure	Documents exist, with listed name	Documents exist, with no listed name	No documents or unclear	Companies may seize this property	Lack of money or other resources needed to live in this property	Government may seize this property	Issues with customary authorities
Cambodia	42	45	44	32	24	8	18	6	8
Indonesia	24	71	40	40	20	2	7	3	2
Lao PDR	25	59	54	40	7	4	11	5	6
Malaysia	31	60	30	36	34	3	13	5	1
Myanmar	27	56	22	44	33	3	11	5	3
Philippines	56	41	12	33	55	12	22	19	13
Thailand	21	68	34	52	14	1	7	1	2
Viet Nam	8	82	61	34	5	1	3	0	1

Source: Prindex, 2024.

5. Data on cultivation of agricultural commodities by smallholders

Government data from Indonesia show that the area and production of cocoa by smallholders fell between 2010 and 2024 by 13.9 per cent and 17.2 per cent, respectively (Government of Indonesia, 2024). The decline in production was attributed to various reasons, including failure by farmers to implement good agricultural practices and ineffective provincial extension services (Kongor et al., 2024). During this period, the holdings and production of other agricultural commodities by smallholders increased, especially palm oil (table A8).

Table A8: Change in area and production of selected agricultural commodities by smallholders in Indonesia, 2010 and 2024

	Coffee		Cocoa		Palm oil		Rubber	
	Area (hectares)	Production (tonnes)	Area (hectares)	Production (tonnes)	Area (hectares)	Production (tonnes)	Area (hectares)	Production (tonnes)
2010	1,162,810	657,909	1,558,153	772,771	3,387,257	8,458,709	2,921,208	2,179,061
2024	1,243,436	771,969	1,340,323	639,824	6,385,642	16,615,421	3,233,561	2,323,101
% change	6.93	17.34	-13.98	-17.20	88.52	96.43	10.69	6.61

Source: Government of Indonesia, 2024.

Smallholders in Thailand, on the other hand, reduced their cultivated area of cocoa (by 65.3 per cent) and coffee (by 21.6 per cent) while expanding the area of palm oil (by 41.9 per cent) and rubber (by 10.1 per cent) between 2012 and 2020 (Gritten & Khunrattanasiri, 2023) (table A9).

Table A9: Change in area and production of selected agricultural commodities by smallholders in Thailand, 2012 and 2020

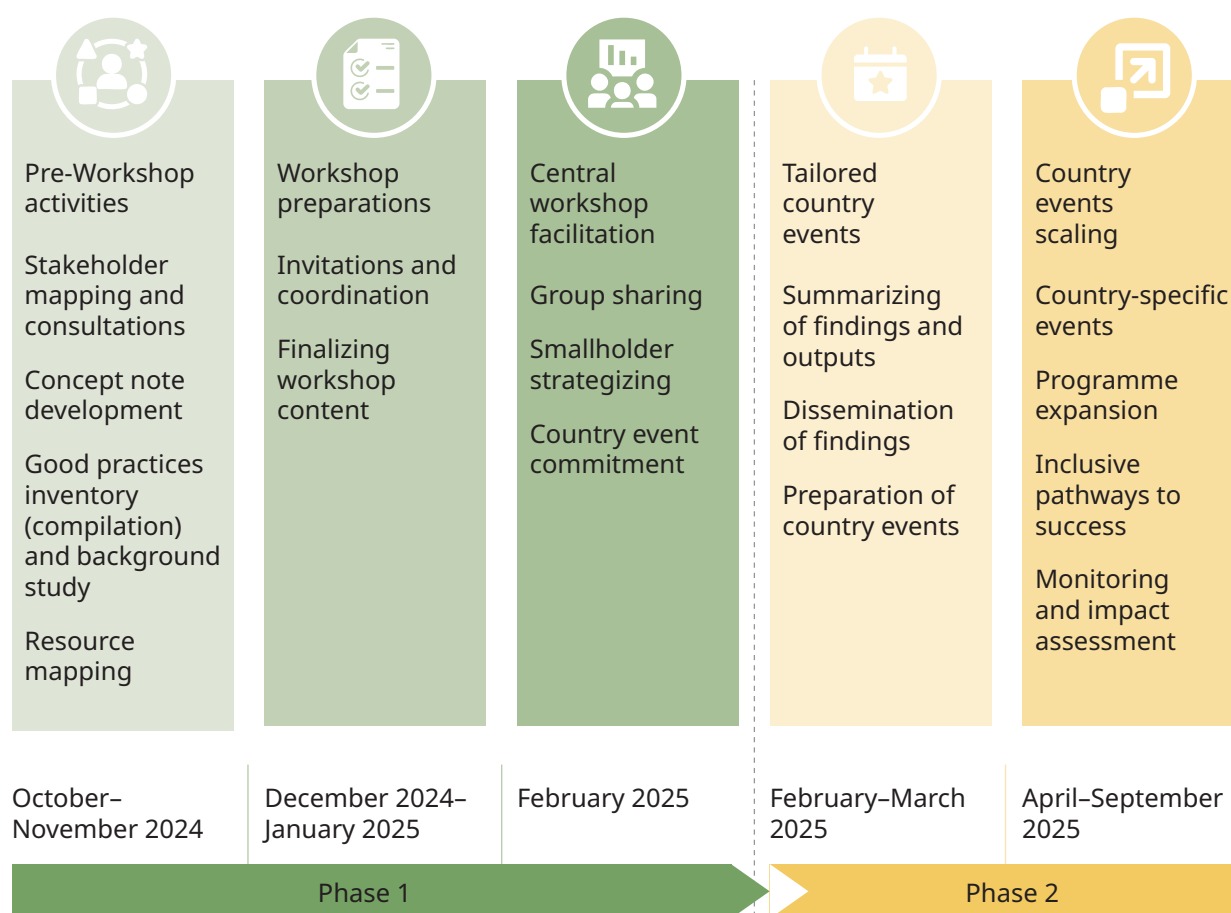
	Cocoa smallholder cultivated area (hectares)	Coffee smallholder cultivated area (hectares)	Palm oil smallholder cultivated area (hectares)	Rubber smallholder cultivated area (hectares)
2012	39,600	52,670	701,730	3,597,090
2020	13,760	41,270	995,490	3,960,520
% change	-65.25	-21.64	41.86	10.10

Source: Gritten & Khunrattanasiri, 2023.

6. Overview of the work planned by RECOFTC and partners to support smallholders' compliance with forest risk commodities regulations

Figure A2: Overview of the work planned by RECOFTC and partners to support smallholders' compliance with FRC regulations

Two strategic programme phases and activities will enhance marginalized smallholder readiness for and compliance with FRC regulations, ensuring that no smallholder is left behind in deforestation-free trade.

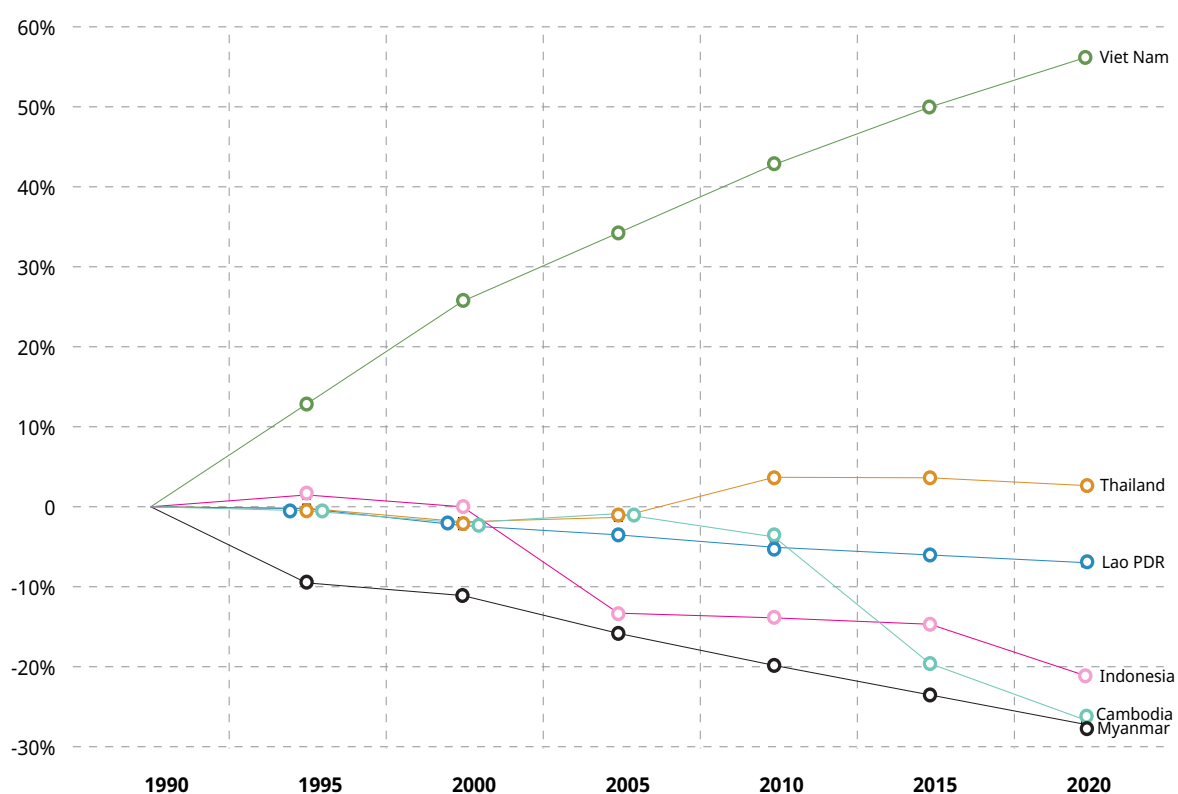


7. Forest cover change in selected ASEAN Member States, 1990–2020

Figure A3 shows the rate, in percentage, of forest cover change in six countries in Southeast Asia. For comparative purposes, 1990 was set to 0.

From 1990 to 2020, Cambodia (at a 26.7 per cent loss – 11 million hectares to 8 million hectares), Indonesia (at a 21 per cent loss – 118.5 million hectares to 92.1 million hectares) and Myanmar (at 27.2 per cent loss, 39.2 million hectares to 28.5 million hectares) had significant forest loss. The rate of forest loss in Cambodia and Indonesia has improved in recent years (according to more recent data). And Viet Nam has increased its forest cover since 1990, from 9.3 million hectares to 14.6 million hectares (a 56 per cent gain), although the area of natural forests is still decreasing.

Figure A3: Forest cover change in selected ASEAN Member States, 1990–2020



Source: Based on analysis of FAO Forest Resource Assessment data, 2020.

Endnotes

1. The EU Deforestation Regulation is formally known as Regulation of the European Parliament and of the Council on the making available on the Union market as well as export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010.
2. For example, criteria in Indonesia include the holding of fewer than 25 hectares, while the Roundtable on Sustainable Palm Oil defines a smallholder as having a holding of fewer than 50 hectares.
3. There are numerous other FRCs that could be covered in this work, with some highlighted as having a greater deforestation footprint than others. This includes cashew, which in 2021 was cultivated by an estimated 209,000 households in Cambodia (MAFF, 2023).
4. See www.aph.gov.au/Parliamentary_Business/Bills_Legislation/Bills_Search_Results/Result?bId=r4740#:~:text=The%20bill%3A%20prohibits%20the%20importation,diligence%20requirements%3B%20requires%20the%20accurate.
5. See https://english.mee.gov.cn/Resources/laws/envir_elatedlaws/202102/t20210207_820735.shtml.
6. See www.fao.org/faolex/results/details/zh/c/LEX-FAOC184651/.
7. See www.fao.org/faolex/results/details/en/c/LEX-FAOC136715/#:~:text=The%20State%20and%20local%20governments,stable%20supply%20of%20timber%20products.
8. See www.legislation.gov.uk/ukpga/2021/30/contents.
9. See www.congress.gov/bill/118th-congress/senate-bill/3371.
10. The Harmonized System (HS) is the globally recognized system of codes that allows for the identification of products based on their composition, nature, and intended use.
11. The countries in the region have also strengthened the legal framework for addressing issues around deforestation and degradation, particularly the trade in illicit timber, including in Indonesia (Regulation No. 23 of 2021 on Forestry Management), the Lao PDR (PMO No.15 of 2016) and Viet Nam (Decree 102/2020/ND-CP).
12. See The Irrawaddy. (2004). 'Rakhine's banking system collapses as Myanmar State teeters on precipice', 27 November.
13. For example, the Lao PDR has 20-year (2021–2040), 10-year (2021–2030) and five-year national digital economy development plans and strategies (2021–2025), while Viet Nam has the National Digital Transformation Program to 2025, Orientation to 2030 and the National Strategy on the Fourth Industrial Revolution to 2030.
14. See <https://asean.org/book/asean-digital-masterplan-2025/>.
15. See https://asean.org/wp-content/uploads/2021/09/ASEAN-Work-Programme-on-Electronic-Commerce_published.pdf.
16. Some government agencies in China and Indonesia, for example, have raised the concern that the EUDR's requirement to share geolocation data goes against national laws.

17. SDG 1.4, for instance, states: “By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.”
18. The three objectives of the Action Plan: 1. Create or improve village land allocation, forest and agricultural land management plans for all 3,167 villages that are located in the three forestland categories by 2030; accurately identify construction land, permanent agriculture land and forest land. 2. Survey and register the land of individuals and families, legal entities, organizations and collectives of at least 680,000 plots in 3,167 villages located in the three forestland categories by 2030. 3. Issue land titles, land-use certificates and village forest management and protection contracts according to the land use type for land used by people living in 3,167 villages located in the three forestland categories by 2030.
19. See <https://gain.fas.usda.gov/Download.aspx?p=1597&q=18130cdc-c239-4fe3-a9cc-c7f43c575c6e>.
20. See <https://rspo.org/resources/?id=4737>.
21. Team Europe is a programme by the European Union and its Member States to support efforts to address agricultural production’s role in deforestation and degradation. The initiative emphasizes partnership with stakeholders in Africa, Asia and Latin America. For more information, see <https://zerodeforestationhub.eu/>.
22. See <https://zerodeforestationhub.eu/projects/safe/>.
23. See <https://iov42.com/introducing-interu/>.
24. See www.preferredbynature.org/certification/preferred-by-nature-certification.
25. See <https://sourcinghub.preferredbynature.org/>.
26. See <https://aceliafrica.org/>.
27. See <https://aceliafrica.org/gender-inclusive-lending-for-agriculture-in-africa-2024/>.
28. See <https://acorn.rabobank.com/en/projects/farm-africa-kenya/>.
29. See https://investinginwomen.asia/wp-content/uploads/2019/10/IW-Case-Study_Root-Capital_OCT-2019_Final.pdf.
30. See <https://trees4allthailand.org/en#report>.
31. See www.recoftc.org/en/cambodia/projects/paff/press-releases/thousands-cambodians-empowered-manage-sustainably-local-forests-and-fisheries.
32. Donors include the United States Agency for International Development and the Bill and Melinda Gates Foundation (with Aceli Africa and Rabobank with Acorn).
33. See www.datasharingtoolkit.org/.
34. See <https://gdpr-info.eu/>.
35. See www.laofab.org/document/download/5464.
36. See <https://luis.luislao.info/?lang=en>.
37. See <https://nfms.maf.gov.la/>.

38. See www.jica.go.jp/project/english/laos/028/news/general/230104.html.
39. See www.fao.org/in-action/openforis/news-and-events/news/news-detail/enhancing-compliance-with-deforestation-free-regulations-and-enabling-local-participation-with-ground--insights-from-user-experiences-in-ivory-coast/en.
40. See <https://metkasekor.com/about-metkasekor/>.
41. See www.agriac.com/.
42. See www.agriac.com/.
43. See www.rfi.fr/en/business-and-tech/20230222-thai-farmers-tap-into-sustainable-rubber-industry.
44. See www.tracethai.com/.
45. See www.tracethai.com/ExSum_Phase4_pub.pdf.
46. Length of time after planting before first crop, roughly (also an implication for need to access finance): cassava 8–18 months; cocoa 3–5 years; coffee, arabica 3–4 years; coffee, robusta 3–4 years; palm oil 3–4 years; and rubber 5–7 years.

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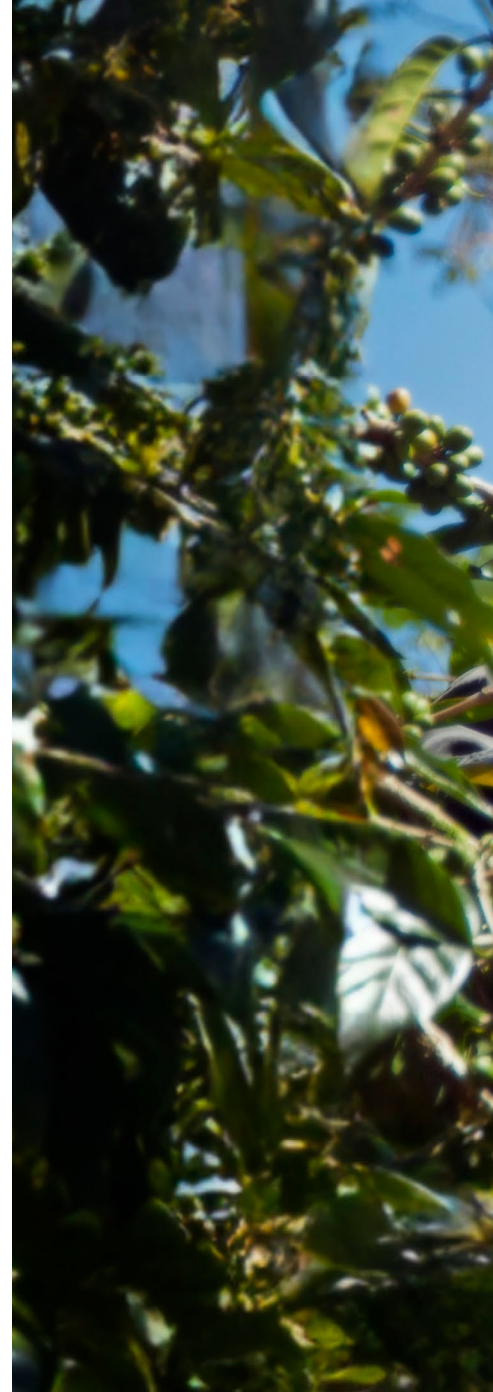
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