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PRODUCTION AREA DATA ACROSS COMMODITY SECTORS: FROM EUDR COMPLIANCE TO STRATEGIC INFRASTRUCTURE FOR VIETNAM'S AGRICULTURAL SECTOR

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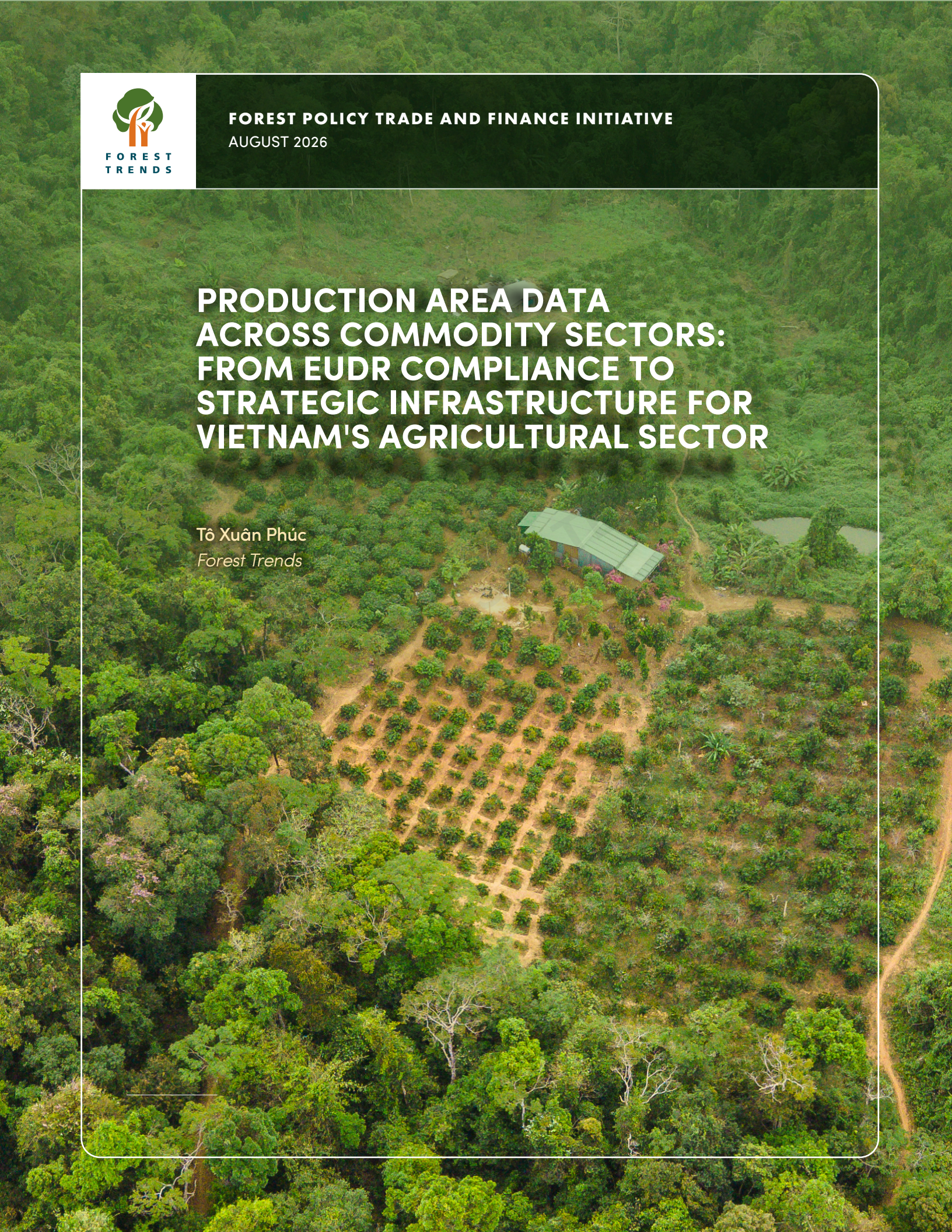

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Information in this report was compiled from discussions with experts, including technology specialists, corporate sustainability managers, agricultural-sector officials at central and local levels, and commune- and village-level officials. The report also draws on activities under the pilot initiative to build an EUDR-compliant coffee production area database in Muong Chanh and Nam Lau communes of Son La Province, and Chieng Sinh and Pu Nhi communes of Dien Bien Province. The report aims to provide input for further discussions to promote the development of production area databases and an effective data governance platform for the agricultural sector in the future.

We sincerely thank Dr. Pham Tuan Anh, former Director of the Dak Nong Department of Agriculture and Rural Development (now the Lam Dong Department of Agriculture and Environment), for his valuable comments on the draft of this report.

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SUMMARY

Vietnam does not lack production area data; however, the data currently available are fragmented, inconsistent, and not interconnected across government, businesses, and different levels of administration. Duplicate data collection is relatively common in some localities, where two or more companies collect data in the same area. Fragmented, inconsistent, and disconnected data not only waste stakeholders' resources but also foster supply-chain risks and undermine opportunities for effective governance of agricultural commodities in the future. This report argues that production area data should not be collected solely to enable farmers and companies to meet export-market requirements such as the EU Deforestation Regulation (EUDR). These data should become shared data infrastructure for the agricultural sector: data collected once can be used multiple times, updated at the farm level, and generate benefits for both businesses and government. Building a standardized production area data platform that enables traceability, together with data and technology infrastructure that supports data sharing, connectivity, use, and protection, is strategic infrastructure for the agricultural sector and deserves the attention of stakeholders, particularly the Government and the business community.

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Photo 1: Farmers in Muong Chanh Commune, Son La Province, participate in training on tools for collecting production area data. Source: Forest Trends

1. PRODUCT PROFILE: AN ESSENTIAL REQUIREMENT FOR EXPORTED PRODUCTS

When exporting to major markets such as the United States and the EU, Vietnamese products such as coffee, timber, cashew, and rubber must compete not only on quality and price but also meet requirements concerning the product profile. A product profile includes information on where the product was produced, on which specific plot of land and by which household; whether the production land is legal; whether production caused deforestation; which stages of the supply chain the product passed through; and what evidence is available. These are among the questions Vietnamese exporting companies need to answer when placing their products on these markets.

Production area data are one of the most important components of a product profile. They include different layers of information, including: (i) information on the production plot - geolocation as a point or polygon, area, crop type, planting year, harvest year, land-use history, etc.; and (ii) information on the farming household - name, contact address, land-use rights, etc.

The EU Deforestation Regulation (EUDR) requires seven groups of agricultural and forestry commodities entering the EU market to ensure that (a) products fully comply with the laws of the country of production and (b) the production process did not cause deforestation after 30 December 2020.

Three Vietnamese commodity sectors - coffee, timber, and rubber - currently export products to the EU.1 Compliance with EUDR requirements is mandatory for access to this market. The EUDR requires detailed production area data. Companies in the timber, rubber, and especially coffee sectors have been collecting and preparing information, including production area data, to meet EUDR requirements.

1 The importance of the EU market varies by sector. For coffee, the EU accounts for nearly 40% of total export value; the corresponding share is about 4-5% for timber and 8-9% for rubber. For details, see: https://pub-11f428574adc4d41aede46d8289892c0.r2.dev/gallery/pdf-vn/1776599148312-116 Ban-tin-EUDR-3-Ho-tieu-dien-Geolocation .pdf.

Photo 2: Natural rubber latex after harvesting. Source: Forest Trends

2. CURRENT STATUS OF PRODUCTION AREA DATA FOR EUDR COMPLIANCE

2.1. The paradox of production area databases

A paradox currently exists around production area data, as reflected in the following aspects:

Vietnam has data on land and agricultural production. The Government holds cadastral data, land-use planning data, forest data, production area data, and other management data. However, these datasets are not yet synchronized across agencies and administrative levels. Some are not updated regularly and/or do not contain all information fields needed for product traceability.

Companies have proactively collected data from farming households for traceability, sustainability certification, and other market requirements. These data allow traceability to individual production plots. However, companies collect data only within their own sourcing areas, without covering areas outside those zones. They also do not share these data with other companies or government agencies. This creates a risk of duplicate data collection when multiple companies collect information from the same plots and farming households. Such duplication also wastes the resources of both companies and farmers.

2.2. Collecting production area data for EUDR compliance and commodity management

Forest Trends has recently produced several reports emphasizing the importance of building production area data to meet EUDR requirements. The report The urgent need to build a production area dataset for agricultural and forestry commodities to support management and traceability: A bottom-up approach, published in June 2026, recommends building the capacity of commune- and village-level officials to use data-collection tools, and then mobilizing these officials to collect production area data from households in their localities. This bottom-up approach - using the capacity of commune- and village-level officials - requires the engagement of Party committees and local authorities from provincial to commune and village levels from the outset. It is also considered practical where the Government has no dedicated resources for data collection. However, although the bottom-up approach can be implemented quickly, it has not yet mobilized companies that have established sourcing areas in these localities, resulting in inefficient use of resources for data collection.

The Forest Trends report From building production area databases for traceability and management to multi-layer databases in the future, published in August 2026, argues that a bottom-up approach can not only waste resources but also create risks of inconsistent production area data across localities if the central Government does not provide specific guidance on the data fields to be collected. On this basis, the report recommends a cooperation mechanism between companies and government agencies, under which companies share their production area data with the authorities. Government agencies need to establish mechanisms to ensure the security of these data. According to the report, government agencies would be responsible for collecting data in production areas not already covered by company data collection.

The reports above focus primarily on collecting production area data to meet EUDR requirements. Although data governance was discussed in the report published in August, the issue was not examined in depth. The report also did not fully clarify the strategic role of input data and data governance for the future of the agricultural sector.

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Photo 3: Farmers in Muong Chanh Commune, Son La Province, participate in training on tools for collecting production area data. Source: Forest Trends

3. PRODUCTION AREA DATA: ESSENTIAL DATA INFRASTRUCTURE FOR COMMODITY GOVERNANCE

Beyond meeting traceability requirements and helping government agencies manage commodity sectors more effectively, production area data have the potential to become foundational infrastructure for agricultural governance, resource management, stronger competitiveness, and the protection of the interests of millions of farming households. The following sections examine these potential roles in greater detail.

3.1. Data are the foundation of traceability

Production area data are a critical foundation for product traceability. A robust traceability system that meets market requirements such as the EUDR should enable traceability through the following logical chain:

Major markets are imposing increasingly stringent product requirements. Timber and coffee products exported to the EU or the United States are expected to meet a full range of sustainability criteria. To comply, farming households need to ensure that cultivation practices meet sustainable production requirements, use inputs and chemicals appropriately, protect soil and biodiversity, and comply with occupational safety requirements. Some markets have also begun requiring information on emissions across the product journey; for example, Japan and the EU require such information for imported wood pellets.

Data collected at household level need to be complete and up to date so that new market requirements do not require a full round of data collection from every farming household each time.

Exporting companies maintain their own production area datasets. Building these datasets requires surveys, measurement, verification, data entry, and data cleaning, all of which involve significant costs. Information from several coffee companies in the Central Highlands indicates that the average cost of collecting household production area data is around USD 5-7 per hectare, and in some cases as high as USD 30 per hectare. These costs apply where cadastral data (parcel maps) already exist and companies can access them. Some localities, including parts of the Northwest, still lack cadastral data; building production area datasets in these areas will therefore be considerably more expensive.

3.2. Data are infrastructure for commodity governance

Data are an essential component of commodity governance infrastructure. Without data, government agencies cannot manage commodity sectors effectively.

For agricultural and forestry commodities, input data include information such as the number of households involved in production, the cultivated area of each household, the legal status of land, crop yields and production, distribution areas, changes in cultivated area, areas requiring replanting, cultivation capacity by locality or region, and localities or regions requiring technical support.

Without input data from households and their land plots, commodity policies must rely on estimates or outdated data. This is currently the case for some agricultural and forestry commodities, creating a risk that policies and mechanisms are not closely aligned with actual conditions.1

Recognizing the importance of data for management, the Party and Government have recently prioritized data development, including land data. Key measures include Politburo Resolution No. 57-NQ/TW dated 22 December 2024 on breakthroughs in science and technology development, innovation, and national digital transformation;2 Plan No. 02-KH/BCDTW dated 19 June 2025 of the Central Steering Committee for the Development of Science, Technology, Innovation, and Digital Transformation;3 and Government Resolution No. 214/NQ-CP dated 23 July 2025 promulgating the Government Action Plan to promote data creation for comprehensive digital transformation.4 In implementing these directions, the Ministry of Agriculture and Environment, in coordination with the Ministry of Public Security, other ministries and sectors, and local authorities, has been working to accelerate the development and completion of the national land database, ensuring data are accurate - complete - clean - live - consistent - shared.

To accelerate cadastral surveying and mapping, cadastral records, and the development and completion of the national land database, on 13 February 2026 the Government issued Directive No. 05/CT-TTg on urgently concentrating resources to accelerate cadastral surveying and mapping, land registration, preparation of cadastral records, and development of the national land database.5 Directive 05/CT-TTg calls on agencies to urgently mobilize resources to speed up surveying and cadastral mapping. It specifies that in 2026 the national land database should be developed and completed around three priorities: (i) surveying and registration, (ii) data cleaning, and (iii) information security.

Completion of government data collection will create a synchronized land dataset that enables traceability. Access to these data would allow companies to save substantial investment in collecting their own production area data.

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2 https://xaydungchinhsach.chinhphu.vn/toan-van-nghi-quyet-ve-dot-pha-phat-trien-khoa-hoc-cong-nghe-doi-moi-sang-tao-va-chuyen-doi-so-quoc-gia-119241224180048642.htm
3 Plan No. 02-KH/BCDTW dated 19 June 2025 of the Central Steering Committee for the Development of Science, Technology, Innovation, and Digital Transformation.
4 https://vanban.chinhphu.vn/?pageid_27160_docid_214701
5 https://datafiles.chinhphu.vn/cpp/files/vbpq/2026/02/05ct.signed.pdf

3.3. Production area data are an asset of farming households

Production area data are not solely an asset of companies - to use a term employed by many coffee companies - but are also an asset of farming households because the data belong to and are provided by the households themselves.6 Household data can identify where goods were produced, by which household, the production area, production history, the legal status of the land, and information on farming practices. These are important inputs for companies purchasing raw materials from households to conduct product traceability.

In the future, household data may create opportunities for farmers to access product markets, credit, technical support, insurance, and other services. Households with transparent and clear information on their land, products produced on that land, and the supply chains through which those products are sold are likely to have more opportunities than households without such information.

Carbon credit markets are attracting growing interest from stakeholders, including investors seeking opportunities in this emerging market. Household production areas - such as coffee, plantation timber, rubber, tea, and pepper - may have the potential to generate carbon credits by changing farming practices to increase carbon sequestration by crops on the land, for example through intercropping, and/or by reducing emissions from farming activities, such as lowering fertilizer use and irrigation inputs. Household data are a foundation for farmers to participate in carbon markets in the future.

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6 The term "asset" is used here in a simple sense: a good or service created through the investment of resources - money, time, technology, knowledge, etc. - by an individual or organization.

Photo 4: A farming household in Dak Lak tending a coffee garden. Source: Forest Trends

4. BUILDING DATA INFRASTRUCTURE FOR THE AGRICULTURAL SECTOR: A PUBLIC-PRIVATE COOPERATION MECHANISM

To avoid wasting resources in collecting data from farming households, a mechanism for data sharing and common use is needed. Under this mechanism, the Government should act as the focal point, consolidating data already available in its own systems and data provided by companies, and integrating them into a shared system. The system should assign access rights so that each company can use data only within its own scope and cannot access data shared by other companies. This would shift production area data from fragmented, inconsistent, and disconnected datasets toward a fair data governance mechanism with direct participation by relevant stakeholders.

Building a transparent and fair data governance mechanism requires clear answers to the following questions: Who creates the data? Who has the right to manage or own the data? Who may access them? Who is responsible for updating the data? Who is responsible for data accuracy? Who protects farmers' privacy and interests?

Data infrastructure consists of three basic components:

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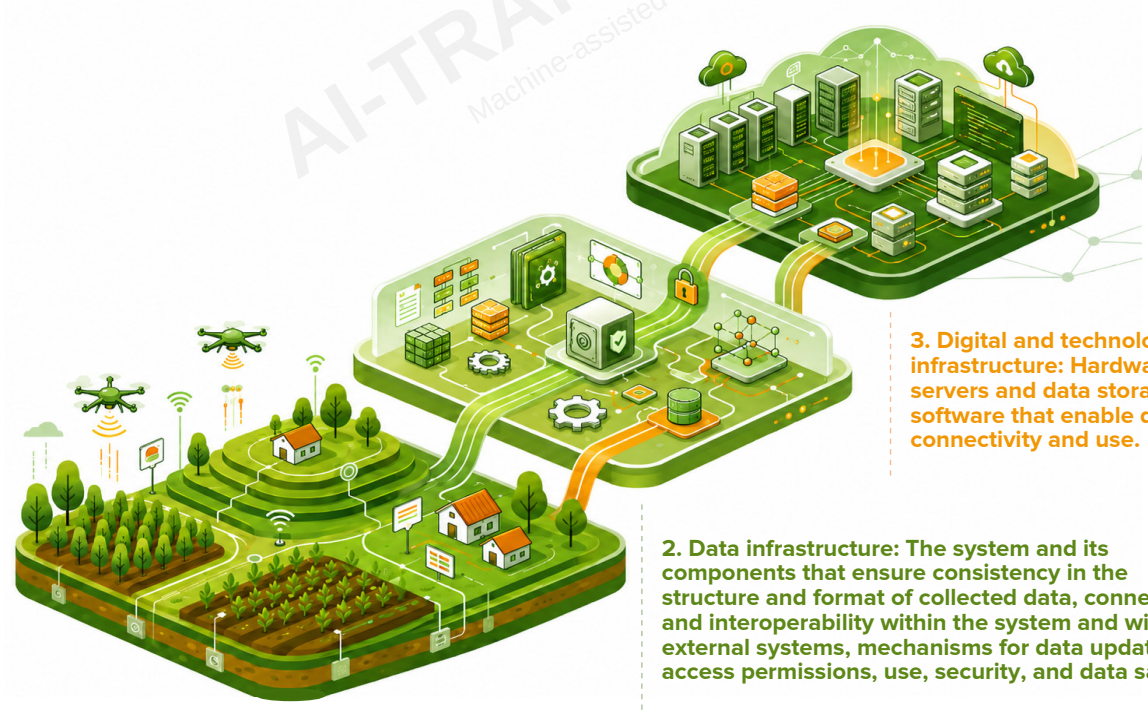

3. Digital and technology infrastructure: Hardware (e.g. servers and data storage) and software that enable data connectivity and use.

2. Data infrastructure: The system and its components that ensure consistency in the structure and format of collected data, connectivity and interoperability within the system and with external systems, mechanisms for data updates, access permissions, use, security, and data safety.

1. Production area data sources: Information on farming households and production plots (see Section 1 above).

Vietnam needs a public-private cooperation mechanism for data governance, under which the Government and companies jointly build a shared production area database with different access and use rights assigned to different groups. The system would draw on the following data inputs.

Government

Provides foundational data such as cadastral data, planning data, forest data, identifiers, and production areas. The Government should also be responsible for investment in data infrastructure.

Companies

Provide data on farming households, household production land, sourcing areas, production volumes, and related information within the scope of households they work with. The business community should also consider sharing responsibility with the Government for developing the data infrastructure system.

Farming households

Provide input information to companies for areas linked to those companies, and to the Government for areas outside such arrangements. Farming households are also responsible for confirming the accuracy of the data they share and updating information on changes related to their land plots and crops.

Development organizations

Resources from development organizations, socio-professional organizations, and others - including finance, technology, standards, and methodologies - should be used to support government agencies and farming households in building production area databases and technology platforms, documenting lessons on data-collection methods and operational arrangements, and developing data-sharing mechanisms.

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An important question is why companies should share their data with the Government when these data are company assets and the current legal framework does not require companies to share them. This question highlights two aspects that need clarification: companies' responsibilities and the benefits they receive from sharing data.

Current law does not require companies to share data with government agencies. Companies are likely to share data that they regard as assets only when there are corresponding benefits. These benefits could include local mechanisms or policies that give participating companies certain advantages, such as support in promoting the company and its products or access to data collected by government agencies. This report does not examine such incentive mechanisms in detail; they will be addressed in a separate report.

Most importantly, the data governance system needs to be synchronized and consistent, while ensuring fairness and data security for all participating members.

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Photo 5: Collection, preliminary processing, and bagging of coffee after harvest. Source: VICOFA

5. CORE PRINCIPLES FOR BUILDING DATA AND DATA GOVERNANCE SYSTEMS

Building effective databases and data governance systems requires consideration of the following aspects.

First, each farming household needs a consistent unique identifier. This identifier should be used consistently throughout the system. For example, if a household sells products to different companies at the same time, it should use the same identifier in all transactions.

Second, each cultivated land plot needs a unique identifier. A single identifier should apply to each plot. Information linked to that identifier should include the plot's geographic location (point or polygon boundary), area, crop type, legal status, and history of changes. All transactions involving products harvested from that plot should use the same plot identifier.

Third, collect data once so they can be used many times. Data collected from farming households should be accurate, standards-compliant, and consistent in the information fields collected. Standardized and consistent household data can then be reused without repeated collection whenever new requirements arise.

Fourth, data should be updated at the source whenever changes occur. Household data need to be updated when land-use rights are transferred, the household head changes, cultivated area changes, crop types change, or other relevant changes occur. A database that is not updated becomes dead data; updating changes keeps the dataset live.

In many cases, such as changes in crops or reductions or expansions in cultivated area, incentive mechanisms may be needed to encourage farming households to update these changes. This report does not discuss such mechanisms in detail.

Fifth, data systems need to be connected. This is necessary to ensure interoperability across systems and enable traceability throughout the supply chain, from land use to final products placed on the market.

land -> farming household -> production area -> forest -> product -> company -> market

Vietnam has already developed technical requirements to support the connection and exchange of traceability data, including data structures, APIs, and connection mechanisms. This is an important foundation for achieving interoperability between systems.

Sixth, data governance. Data governance is no less important than the database itself. Effective governance requires clear rules on access rights, usage rights, responsibilities for updating and verification, confidentiality, sharing rights, personal data protection, and commercial use of data. The governance system should clearly distinguish foundational data used for state management, such as cadastral data and forest boundaries, from companies' commercially sensitive data. Data governance includes data sharing between companies and the Government, but this does not mean that companies should share all of their business data. The key is to identify and agree on which types of data should be shared, with whom, for what purpose, and to what extent.

Photo 6: A coffee production area bordering natural forest in the Central Highlands. Source: Forest Trends

6. OTHER KEY CONSIDERATIONS

To build production area datasets and a data governance system that meet the criteria of accurate - complete - clean - live - consistent - shared, several additional aspects require attention:

Recognize production area data as an important component of the agricultural sector's strategic infrastructure. Building production area datasets should not be viewed solely as a means of complying with the EUDR. Production area data should be treated as part of the national digital infrastructure for agriculture, serving government management, companies, and farming households.

Complete a shared national production area database. The system should cover all production areas, not only areas linked to companies and households for sustainable sourcing, such as certified areas. A system that includes only households already covered by company data collection while excluding those outside company linkages cannot become a complete national database. An inclusive system ensures that no farming household is left behind and creates a unified production area data system instead of the fragmented systems that exist today.

Build a fair and effective public-private data-sharing mechanism. Companies have invested in collecting data and, as noted above, are not currently required to share their data with government agencies. Incentives are therefore needed to encourage sharing. For example, companies' data-use rights should be recognized and protected; in return, companies should be able to access data needed for business and compliance purposes. The Government should not rely on administrative orders to require data sharing, but neither should data that companies have invested in collecting remain closed and unable to contribute to the common governance system.

Standardize a consistent minimum dataset for production areas. The Government should define the minimum information fields to be collected for the national production area database. These fields should be consistent across localities and with the business community to enable national-level synchronization. Minimum information could include a farming household identifier, production plot identifier, plot geolocation (point coordinates or polygon), plot area, crops grown on the land, and legal information on the plot.

Commercial data are company information that should sit in a separate layer and do not necessarily need to be included in the national minimum dataset.

Apply the principle of collect once, use many times. Once data have been collected and verified according to national standards, companies, projects, and development programs should be allowed to access them with appropriate consent and access rights. This would substantially reduce costs and burdens for companies and projects while also reducing the risk of overlapping or duplicate data.

Empower farming households over their own data. Farming households should not be treated merely as data providers. They need to know what household data are stored, who uses them, the purpose of use, and their rights to permit or restrict use. They also need to know how to update and correct data when changes occur. Importantly, farming households should benefit from the information they provide. Benefits could include added value for products sold to companies from sustainable areas, or access to programs, projects, and credit.

Treat EUDR compliance as a starting point, not the end point. The production area data system - including the database and data governance system - may initially be developed to meet EUDR requirements. However, it should be expanded to commodities beyond the EUDR scope, including fruit, cashew, and pepper. Data development and governance undertaken to meet EUDR requirements today can become governance infrastructure for the agricultural sector in the future.

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Photo 7: Farmers in Muong Chanh Commune, Son La Province, participate in training on tools for collecting production area data. Source: Forest Trends

7. CONCLUSION

Meeting EUDR requirements creates a range of challenges for actors in supply chains. These include higher costs, a lack of input information - particularly at the farming-household level - unsynchronized data, and insufficient detailed guidance for data collection. Another challenge is building data that are consistent across localities and between local authorities and the business community so that a shared dataset can be developed in the future.

At the same time, EUDR compliance has created an opportunity for the Government, companies, and other actors in agricultural and forestry supply chains to confront a fundamental question for the sector: What do we actually know about our products, particularly where they are produced? This is not simply a question of product origin; it is also a question about the current governance capacity of the agricultural sector.

A common question today is: How can companies comply with the EUDR? The Government, business community, and other stakeholders are working to answer it. However, the agricultural sector needs to place this question within a more strategic one: How can the sector turn data on land, farming households, and production areas into shared data infrastructure serving the Government, companies, and farmers alike? The EUDR can provide an important push, but production area data need to become a strategic foundation for Vietnam, particularly as the country integrates more deeply into international markets.

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Photo 8: A coffee collection point in the Central Highlands. Source: Forest Trends

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