The Terpercaya Initiative

Jurisdictional palm oil traceability in Indonesia

Summary

- Efforts to improve the traceability of palm oil in Indonesia are hampered by the complexity of the supply chain, which includes many informal actors, such as independent smallholders and informal traders.
- To avoid exclusion of companies and many vulnerable actors from markets requiring assurance of legal, sustainable and deforestation-free palm oil, extensive collection and collation of currently unavailable traceability data is required.
- Interviews with representatives of companies in the palm oil supply chain, however, revealed widespread reluctance to share supplier information due to commercial concerns.
- The Indonesian government can overcome these concerns by issuing regulations to collate and control relevant data and by supporting establishment of a national palm oil traceability platform.
- Ministries at the national level working in partnership with subnational governments could mandate submission of data to facilitate progress towards full traceability, while traceability to the district level can provide an interim means of identifying and reducing supply chain risk regarding deforestation, illegality, and/or labour or human rights violations.
- This brief presents the results of a legal review and interviews with supply chain actors and identifies traceability data to be collected, retained and disclosed to accelerate progress in palm oil traceability in Indonesia.

Introduction

Palm oil traceability at scale faces significant challenges

Palm oil supply chain actors are under increasing pressure to prove that their product is produced and processed without causing deforestation, violating human or labour rights, breaching laws or resulting in unsustainable impacts. As such, traceability is one of the prerequisites in demonstrating sustainability and, along with monitoring and verification, is necessary to validate sustainability claims and provide assurance to consuming markets.

Palm oil traceability in Indonesia is hampered by the complexity of the supply chain, which includes many informal actors, such as independent smallholders and traders. Independent smallholders often don't have contracts with palm oil mills or a unique identification that allows buyers to verify the origin, sustainability and legality of their fresh fruit bunches (FFB). They often place FFB by the roadside for traders to purchase as they drive through. Indonesian FFB traders themselves are often not formally registered but connect smallholders with mills by sourcing volumes of FFB stipulated in delivery orders. They seldom have contracts with independent smallholders, who are in turn free to sell their products to traders based on convenience, price or trust. Traders, for their part, strive to meet supply volumes and have flexibility in choosing the mills to which they sell.

These informal, dynamic, complex and often opportunistic relationships among independent smallholders, traders and mills impede collection of reliable local-level supply chain traceability data. Consequently, consumer goods companies rely mainly on suppliers' self-declarations with limited scope for verification of any claims made. Therefore, even with good spatial monitoring capacity and clear information on concession boundaries, consumer goods companies often do not have sufficient supply chain information to evaluate the legality and sustainability of all suppliers and raw materials.

To achieve traceability, it is important that actors along the supply chain share information that allows tracking and tracing of components used in producing goods[1]. In some cases, however, companies and other supply chain actors may not be willing to share information and this adds to palm oil supply chain traceability challenges[2].

The need for collaborative approaches with district government leadership

The scale of traceability challenges in the palm oil supply chain requires collaborative responses to tackle issues in specific production areas, especially in segments of the supply chain dominated by smallholders and informal actors. District governments can play a key role in accelerating data collection and establishing the reporting processes necessary to achieve jurisdictional and, potentially, full traceability, while also supporting a local transition to sustainability.

An approach that gives district governments and public-private partnerships the leading role in fostering progress on traceability is referred to here as the

jurisdictional approach to traceability. This can provide an interim traceability model as a first step before full traceability to the farm level becomes possible. The jurisdictional approach to traceability offers the potential for compatibility with market demands for segregation[3] between sustainable products and other products.

The initial step would be to evaluate districts or other production areas based on indicators demonstrating, for example, lack of deforestation, compliance with human and labour rights, or other social or environmental criteria. Segregation of supply chains at the district level would require mills to supply relevant buyers with palm oil only from the same district, or districts that are similarly assessed as low risk. This approach would remove the need for companies to monitor a 50-kilometre radius surrounding their supplier mills, which is currently the dominant approach for excluding high-risk growers from supply chains.

In districts or production areas that cannot demonstrate 'low risk', segregation will need to happen at a subdistrict or even farm level, requiring an acceleration of efforts in registering and monitoring smallholders and informal traders' business activities. Such a traceability system would rely on data stored in a government database, and rules for each stage of the supply chain could be set by regulators to facilitate the transfer of information among supply chain actors. Control organisations could periodically and randomly carry out checks and inspections to ensure proper system functioning and trust.

Workers harvesting oil palm fruits

Approach

The study consisted of gathering qualitative data through interviews and focus group discussions, and a legal review. To assess the various challenges and proposed pathways to palm oil traceability at scale in Indonesia, interviews were carried out with four palm oil producers (mills and refineries) and five downstream companies, including agribusiness, palm oil manufacturers and consumer goods companies, which all source palm oil in Indonesia. The interviews were carried out from August 2021 to January 2022 and aimed to identify existing traceability systems used by the companies and to gather perspectives on minimum data requirements. Companies were asked to describe their existing traceability systems and summarise challenges faced by different supply chain actors. The potential benefits offered by the jurisdictional approach were then presented before discussing design options and next steps.

A truck transporting harvested oil palms

Photo: Greg Girard, CIFOR

Findings

Existing traceability systems and their challenges

Many palm oil supply chain actors have made voluntary commitments to achieve 100% traceability to plantations. For instance, Golden Agri Resources (GAR) aimed to achieve full traceability to plantations by 2021, while Wilmar is committed to achieve full traceability to mills by 2022.

To achieve traceability commitments, consumer goods companies and agribusinesses in the palm oil sector have been voluntarily implementing various initiatives. Currently, many consumer goods companies require their suppliers, mostly the refineries, to declare the mills from which they source palm oil. The refineries can sometimes also provide the percentage of palm oil coming from each mill, which is considered ideal by consumer goods companies. However, such data is considered commercially sensitive and as such is not made public.

In recent years, mills have made progress in achieving traceability to plantations, which is important in allowing buyers to monitor land-use change and detect deforestation in specified locations. As such, mills can often provide data to buyers on the source of fresh fruit bunches (FFB), including for smallholders who are associated with palm oil concessions, known as plasma farmers in Indonesia. Refineries with direct contractual relationships with mills can request more detailed information on supplier plantations for increased traceability. One consumer goods company reported that it pushes for suppliers to provide concession maps, which enable detailed verification of the land-use activities in the concession areas.

Datasets collected for traceability to plantations vary among companies, as shown in **Table 1**. In contrast, the traceability data collected for certification audit reports are more standardised. For the Roundtable on Sustainable Palm Oil (RSPO) certification scheme, the following information is included:

- Mill and estate locations (GPS)
- Estimated Fresh Fruit Bunch production of the supply base
- Mill total Crude Palm Oil and Palm Kernel Oil production for the current/recent year and estimate/s for the upcoming year
- Mill production of Crude Palm Oil and Palm Kernel Oil derived from its own estates
- Forecast mill production of Crude Palm Oil and Palm Kernel Production from its own estates
- Crude Palm Oil and Palm Kernel Oil production sold
- Certificates held by mill and estates
- Maps of mill and estate locations (polygons)

In general, consumer goods companies and agribusinesses lack the means to validate declarations made by mills. For example, mills can usually only declare that a specific trader sources from a certain number of farmers. If allegations arise that a consumer goods company is, for example, receiving products from a supplier located inside a national park, the company has to investigate whether its supplying mills have purchased products from those operating inside the park.

One agribusiness reported that it verifies supplier declarations using mobile phone applications, although this was mostly in Malaysia where mobile phone network penetration is high. In Indonesia, agribusinesses mainly rely on declarations from mills. One consumer goods company representative indicated that most mills provide the names and addresses of farmers and traders. However, little use can be made of such information unless coordinates are provided.

Table 1. Data collected for achieving traceability to plantation by palm oil producing groups

Supply chain actor and data item	Permata Group[4]	GAR[5]	Cargill[6]	Wilmar[7]
Plantation companies				
Parent company name		Y	Y	Y
Estate/grower/trader name	Y	Y	Y	Y
Address (minimum village/sub-district name)	Y	Y	Y	Y
GPS coordinates	Y	Y	Y	Y
Size of the plantation	Y	Y		Y
Volume supplied to the mill	Y	Y	Y	Y
Certification status		Optional	Y	Y
Independent outgrowers, independent smallholders, and smallholder cooperatives				
Name of the grower/cooperative	Y	Y	Y	Y
Address (minimum village/sub-district name)	Y	Y		Y
GPS coordinates		Y		Y
Planted area		Y		Y
Number of growers		Y	Y	Y
Volume supplied to the mill	Y	Y	Y	Y
Agents or other traders				
Name of the agent/traders		Y	Y	Y
Address (minimum village/sub-district name)	Y	Y		
Area of operation (FFB sourcing) – Village/	Y	Y		
Volume supplied to the mill		Y	Y	Y
Number of growers		Y		Y

The interviewed palm oil mill representatives noted that, at minimum, they require the identity of farmers and traders before purchasing FFB. Mills can trace the plantation more precisely in the case of plasma farmers as they are connected to oil palm concession companies, but in the case of independent smallholders whose connections to mills are facilitated by traders, they cannot trace to the plantation level. Where companies cannot trace FFB to farmers' plots, FFB will be sold through conventional trading, i.e., to companies or mills that do not require certification.

In addition to the identity of suppliers, volume records are necessary to support traceability of supply chains from mills to farmers and plantations. A list of suppliers without an indication of their relative importance in terms of volumes supplied would impede effective verification. Through volume information, companies can compare the volume of FFB supplied to mills with the supplier's land size and estimated production. If a farmer has a production history of ~20 tonnes per year and then supplies 100 tonnes of FFB, this indicates a potential discrepancy.

Traceability at the trader level is dependent on the predictability of supply and the existence of agreements with mills (Surat Perjanjian Kerjasama or SPK). Traders with SPK generally have a list of supplying farmers and their identity information, while traders without SPK do not generally keep such information and receive supplies from a range of sources. As independent smallholders are free to choose to whom they sell their FFB and base their decisions on offered price, supply to mills from individual farmers and traders fluctuates. This is particularly the case since prices offered fluctuate for several reasons, not least because of competition between traders aiming to fulfil delivery orders. Resulting inconsistencies and irregularities in supply chains makes product tracing more challenging.

Furthermore, traders, like farmers, are free to buy and sell FFB to whomever they want. As such, traders with SPK may receive supplies from traders without SPK. The latter generally provide their name but not the identity of the farmers from whom they purchased the FFB. A trader with SPK can also sell FFB under another trader's SPK. This is most likely to occur when the mill with which the second trader has SPK is offering a higher price, and the second trader cannot fulfil their delivery order.

In addition to the above complexities, traders may collect FFB from village weighing areas (peron) rather than directly from farmers' plantations. This presents additional challenges since FFB sent by individual farmers are mixed together in the weighing area before being sent to mills. Even where volumes from individual farmers are recorded, subsequent rejection of any low-quality fruits can contribute additional uncertainty and further complicate traceability efforts.

How jurisdictional approaches can improve traceability

Through a jurisdictional approach, compliance with environmental and social standards in palm oil production is evaluated at the district level instead of the plantation level. Using the Terpercaya indicators, which were defined by a national multistakeholder process in Indonesia, the performance of districts can be assessed and made publicly available. Districts assessed based on the 23 indicators could be categorised according to selected indicators into low-risk districts and other districts. Buyers could then use the information to tailor their sourcing and traceability efforts. Interview respondents mentioned they would not need to obtain information on the name or location of smallholders if they are able to know how a district is performing overall. If palm oil products come from a low-risk district, this could provide an assurance to buyers that the commodity is produced sustainably. To achieve environmental and human rights/labour protection goals would require governments in the performing districts to have implemented corresponding measures applying to all stakeholders and supply chain actors in the district.

Consumer goods companies expect that low-risk districts could ensure smallholders are legal or pass the minimum criteria, including applying good agricultural practices. From their perspective, districts should also strive to map, register and assign unique identification numbers to all smallholders. For such "full traceability", smallholder data should include the coordinates of the plantation and corresponding land status, including the legal rights and whether the land is correctly zoned, for example, not within the forest estate. In terms of traceability data from mills, consumer goods companies would also like information on the proportion of production supplied by each type of producer; for instance, how much comes from the mill's own plantation and how much from third-party suppliers and/or independent smallholders.

All respondents agreed that a universal traceability database/platform regulated and administered by the government could be implemented using a jurisdictional approach, and that a publicly available platform is preferable to voluntary disclosures by mills. One consumer goods company specifically suggested that the public should be allowed to use traceability datasets and that data should be available to be downloaded and combined with other company data. Respondents all agreed that independent oversight of a national traceability platform would be necessary to ensure data reliability. To prevent bias, the traceability platform should not be managed by a specific company, and especially not a palm oil supply chain actor.

To achieve traceability at the jurisdictional level, the government could develop and adopt relevant supportive regulations while also establishing a robust database on independent smallholders that contains farm data and unique identification numbers for each farmer. The government could make it mandatory for supply chain actors to maintain and reveal information regarding the quality and sustainability of the commodity and/or its derivative products. The government could also adopt a regulation to mandate registration of informal traders in the palm oil supply chain and speed up mapping and registering of independent smallholders.

▲ **Smallholders collecting oil palm fresh fruit bunches**

Photo: Icaro Cooke Vieira, CIFOR

Data requirements for full traceability

Traceability requires that certain information about the identity of each supply chain actor should be maintained along the supply chain. **Table 2** lists the minimum data that it is relevant and feasible to collect for supply chain traceability, according to the focus group discussion. All respondents agreed with the list elements and types of data that should be retained throughout the supply chain.

Currently, data at the farmer and trader levels are largely missing, as many of the concerned supply chain actors have not been formally registered. However, some progress has been made in leading districts and although not all companies have traceability systems, they often have the data down to the farmer level. All respondents agreed that it is feasible to collect all data listed in **Table 2**, although sufficient resources would need to be allocated. The most difficult kinds of information to gather concern farmer ID, production volume, concession boundaries and plantation coordinates.

Table 2. Information that should be compiled and maintained along the supply chain

Farmers	Trader	Plantation companies	Mills and crushers	Refinery	Consumer good companies
Farmer ID Field ID (STDB)	Traders' ID Location (residence) Location (sourcing villages) Farmers' ID for each supplier List of mills selling to	Mill ID Concession boundaries Volume supplied to the mill	Mill/Crusher ID Aggregate farmer ID including sourcing region (village/subdistrict) Aggregate trader ID Percentage of supply from own plantations, third party supplier and independent smallholders Total volume of production and sales with each buyer or shipped to another region Proof of compliance with regulation (retains all necessary data)	Individual mill/ crusher ID (for each supplier) Aggregate mill/ crusher ID (that refers to all the individual mills' ID) Percentage of supply from each mill/ crusher/region	Refineries All mills/ crushers supplying to the refineries All mills supplying CPO/PKO to manufacturers

With respect to different groups of supply chain actors, different information would be required, and different challenges exist as outlined here:

Independent smallholders

The cultivation registration letter (Surat Tanda Daftar Budidaya or STDB) is the basic proof of smallholder legality in Indonesia. It also proves that commodities were not cultivated in forest areas. The STDB, which contains maps (preferably in digital format) of the location of the plot, can be used as a unique identification for independent farmers. It can also contain information on the plantations and the farmers' performance.

Farmer coverage with STDB is limited and although increasing, the government could further expedite the process. Mills that source produce from smallholders should be required to collect the STDB information of their suppliers. Where smallholders do not have STDB information, provisional legality evidence, including identity cards and proof of legal ownership, could be collected as an interim measure. Volume sourced from smallholders should be consistent with relevant aspects of retained data.

Traders

Both formal and informal traders are involved in purchasing FFB from farmers and transporting them to mills. Informal traders are those who do not have a direct selling agreement (SPK) with mills. They usually use the SPK of other formal traders. Informal traders generally pay a commission fee to formal traders for supplying FFB under the formal trader’s name and the formal trader provides just the name/identity of the informal trader to the mill.

To support development of traceability systems, all traders along the supply chain should be registered. The traders should maintain and disclose relevant information, including the residential address of the farmers and the names of the villages that they source from. The traders should be required to collect farmers' details, including STDB or identity card information. They should also disclose the list of mills that they sell to. Traders receive sale receipts from the mills each time they sell FFB and can thus provide information on the list of mills to which they sell. **Box 1** provides a summary of trader's perspectives on these and other elements of a potential palm oil traceability system.

Box 1. Perspectives of palm oil traders on key elements of traceability

1. Data availability

Traders that hold a SPK have access to all the data required of them in **Table 2**. They disclose their suppliers' identity and daily transactions using an online platform. Smaller traders who do not hold a SPK do not have access to the same system, and FFB that they sell to formal traders are sold under their own name rather than the farmers'.

2. Data collection and the role of government

Traders generally expressed sentiments that the government should play a central role in supporting development of traceability systems and suggested that if the government or plantation companies require them to collect data, they would be willing to do so. They often emphasised, however, that a strong reason is needed to justify collection of data and that national identity card (KTP) information and other sensitive data can be difficult to obtain from farmers. One trader, however, said that he is not interested in collecting traceability data and would rather avoid complicated requirements given that he has been comfortable so far without collecting farmers' data.

Despite the challenges, it should be possible for relevant data including farmers' ID or STDB to be collected by traders. All respondents said that they know all the farmers from whom they purchase and this social capital can play a key role in overcoming farmers' reluctance to share necessary supply chain traceability data.

3. Willingness to be registered in a national traceability platform

Most traders said that they would agree to be registered in a national traceability platform. However, all emphasised the need to protect some data, such as ID numbers, to avoid misuse, and expressed interest in details of the types of data that might be publicly displayed. In relation, it would be essential to disseminate information on the importance and benefits of a traceability platform to overcome reluctance to share data, and also to ensure that sensitive data is appropriately protected.

4. Incentives

Interviewed traders stressed that incentives would be necessary to facilitate data collection given that, for example, the data collection process would involve transportation costs. Compensating for these costs would encourage and enable traders to collect relevant data.

Plantation companies

Concession data for large farms or plantations should be retained by district governments and entered into a national, centralised database accessible to all relevant ministries. Data collected should include the size and location of the concession, information on the concession holders, volume of production and legality information, including whether all or part of the concession is correctly zoned. If concessions are in forest areas, the concession should be required to comply with the relevant laws and regulations. According to the focus group discussion with private sector actors, data on concession boundaries are some of the most challenging to collect.

Crushers

Crushers are used to extract palm kernel oil. Usually, the big palm oil mills have crushers on their premises. However, small and medium companies do not own such machines or tools. Consequently, they use external crushing services. As this creates possible leakage, it is essential to involve crushers in the supply chain identification efforts. Refineries and other downstream actors should collect the ID of crushers, with traceability requirements similar to those of mills (see below).

Mills

Beyond being required to retain smallholder information for audit purposes, mills should be required to provide the following information to clients:

- Total volume of production
- Proportion of production sourced from independent smallholders, scheme smallholders and concessions, and locations (sub-district/village) of producers
- Proof of compliance with regulations regarding legality of production of commodities

Consumer goods companies

These companies face demands for information to provide assurances that the palm oil they supply is legal and deforestation-free. Thus, they need data on concession boundaries to allow them to evaluate locations from which they receive their supply. Consumer goods companies already use a range of methods to conduct risk assessment regarding deforestation and would benefit from further support.

To facilitate establishment of a national traceability platform, the government could issue a regulation requiring companies to submit relevant information. However, there should be a clear justification for why the various data is to be collected and centralised in a national platform, given that most of the data listed in **Table 2** is considered sensitive and many supply chain actors are concerned about competition and/or data misuse. Companies may also already have robust traceability systems and requirements to share data could therefore meet with additional resistance.

Respondents' main concerns regarding public disclosure of data relate to competition among business players. Palm oil supply chain actors often have difficulty finding suppliers, and companies compete in purchasing FFB. Oil palm plantation owning companies also compete with mills that do not own plantations. As such, oleochemical processing companies are often reluctant to share information on their supply chain and sourcing arrangements. Where data sharing is necessary, companies generally use non-disclosure agreements.

In the context of the above challenges, it is important and necessary to decide what data needs to be publicly disclosed. For instance, if the aim is to provide evidence that palm oil is produced from FFB grown in a deforestation-free area outside a low-risk district, disclosing village name may be sufficient. In this respect, and in relation to other data collection and disclosure requirements, it will be necessary to provide a robust justification to supply chain actors for proposed requirements.

Palm oil supply chain

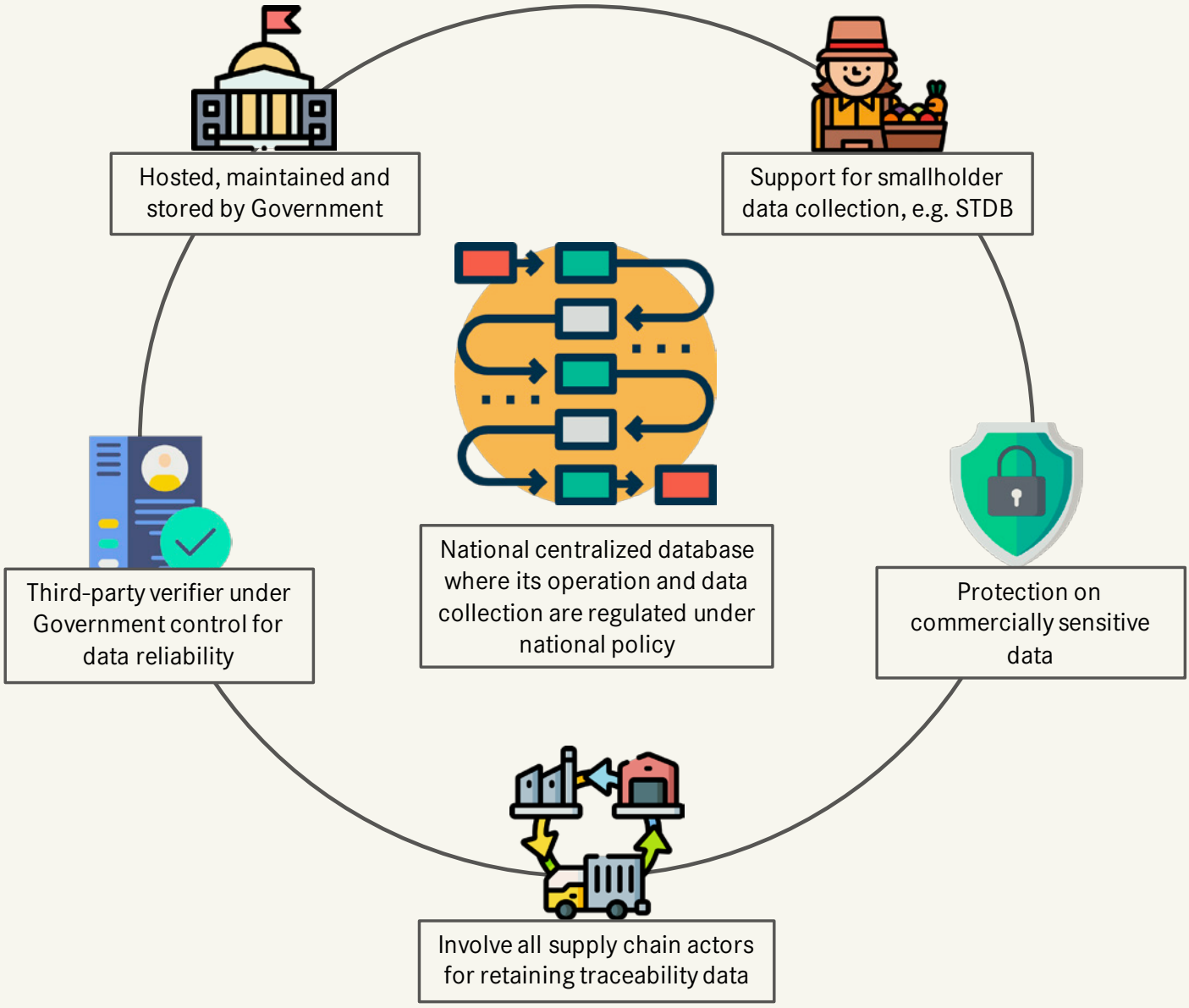
Proposed traceability system design

The legal review identified data that, according to the Indonesian legal framework, could be collected in relation to each type of supply chain actor as the basis for a regulated traceability system. It is assumed here that the same legal requirements apply to crushers and mills, although this needs to be explored further.

The public traceability database would be a national platform, potentially hosted by the Ministry of Agriculture which has direct links to the plantation sector (Figure 1). A national traceability platform could provide information on the palm oil supply chain to the government, supply chain actors and the public. Through the platform, users would ideally be able to identify the location of plantations from which FFB were sourced and the legality status of the plantations. For low-risk districts, the need for such detailed location data might be foregone if information can be provided that FFB were sourced from the corresponding district. The establishment of such a platform could face challenges including reluctance to share data, data reliability issues, and data collection challenges at the smallholder level. These challenges would be particularly applicable where full traceability is concerned.

Steps in building a national traceability platform would include collection of data - particularly at the farmers' and traders' level - involvement of various supply chain actors, independent data verification, and data protection. The platform host - potentially the Ministry of Agriculture - would manage all data collection, storage and updates. Since commercially sensitive data would need to be protected, the government would need to provide relevant guarantees and should enter into non-disclosure agreements with data owners prior to sharing. The data sharing should also be regulated by an agreed protocol protecting commercially sensitive data. To strengthen data reliability, independent third-party data verifiers would conduct regular audits of data providers.

Figure 1. Proposed features of a national traceability platform



Challenges and proposed solutions

Several issues were identified that may hamper development of a national traceability platform:

Data disclosure

Despite study respondents agreeing that traceability data should be collected, stakeholders may be reluctant to share information due to commercial sensitivities, competition, privacy concerns, and/or lack of trust. At present, all producers are legally obligated to obtain Indonesian Sustainable Palm Oil (ISPO) certification by 2025 and traceability of certified products is one of the embedded requirements. In addition, the National Action Plan for Sustainable Palm Oil production (Rencana Aksi Nasional - Kelapa Sawit Berkelanjutan or RAN-KSB) requires producing districts to collect data on oil palm producers. These national initiatives create an incentive for all stakeholders to come together to achieve full traceability.

Data credibility

A traceability platform would only be valuable to supply chain actors when there is independent oversight to ensure data reliability. An auditing and verification mechanism should therefore be established to assure users and third parties of the credibility of claims based on the data. As a national system, efforts should be made to develop a sampling method, identify credible and competent auditors and verification bodies, and create mechanisms for civil society engagement in monitoring, reviewing and suggesting improvements to the design and operation of the system.

Smallholder data collection

Many argue that full traceability cannot be achieved due to the impossibility of mapping and registering the millions of independent farmers involved in the palm oil supply chain in Indonesia. Rather than avoiding the issue of smallholder registration, the STDB issuing process should be accelerated, with district governments given specific deadlines for completion. Mapping of smallholders can be carried out together with supply chain actors, including traders, palm oil mills, refineries and consumer goods companies.

Next steps

Based on the consultations and proposed design, the following next steps are suggested to operationalise a national traceability system.

Data collection and management

Compiling data from supply chain actors requires an advanced platform for data collation, analysis, maintenance and dissemination. A simple yet secure system needs to be designed and the government should ensure that all data owners agree on the data to be shared publicly. The database should align with the National Action Plan for Sustainable Palm Oil In the context of requirements for ISPO certification.

Regulatory framework development

To encourage all actors to monitor traceability and use the traceability platform, it is suggested that the platform would be hosted by the Ministry of Agriculture and that supporting regulations would be issued, predominantly at the local level. Some private sector respondents argued that a national traceability platform should be integrated into the ISPO system, since it is regulated by Indonesia's legal frameworks. Importantly, cooperation between ministries would need to be emphasised to ensure access to the various necessary data sources.

Oil palm fruit bunches awaiting processing

Endnotes

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[3] Within the Roundtable on Sustainable Palm Oil (RSPO) certification system, two similar models of segregated palm oil supply chains are identity preserved, where sustainable palm oil from a single identifiable certified source is kept separately from ordinary palm oil throughout the supply chain, and segregated, where sustainable palm oil from different certified sources is kept separate from ordinary palm oil throughout the supply chain. https://rspo.org/certification/supply-chains

[4] Permata Group, "Traceability" (https://www.permatagroup.com/traceability.html)

[5] Golden Agri Resource (GAR), "Going the extra mile to achieve Traceability to the Plantation" (https://goldenagri.com.sg/?smd_process_download=1&download_id=65049)

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[7] Wilmar, "Traceability" (https://www.wilmar-international.com/sustainability/traceability/traceability-back-to-plantation)

Cover image: Reggina and Angga in oil palm fruit collection process. Photo: Icaro Cooke Vieira, CIFOR

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