



Unresolved Orphan Cases: A Report on Non-Compliance Challenges

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Earthqualizer Foundation &
PT Inovasi Digital untuk Transformasi

Report on Non-Compliance Orphan Cases

This report presents crucial insights into the **non-compliance orphan cases in the oil palm sector**, analyzing the **extensive 471,238 hectares (ha) of deforestation and 115,587 ha of peatland degradation linked to global oil palm development from 2016 to 2024**. Our findings reveal that deforestation and peat development related to orphan cases have affected approximately 125,092 ha of land, involving 106 plantation companies across Indonesia, Malaysia, and Papua New Guinea. This alarming statistic highlights the pressing need for effective No Deforestation, No Peat, No Exploitation (NDPE) policies to be consistently enforced among key palm oil supply chain players.

Total Land Affected By Palm Oil Expansion



Deforestation
471,238 ha



Peatland Degradation
115,587 ha

Linked to Orphan Cases

Deforestation & Peat Land Development



125,092 ha
of land affected



106 involved companies
(Indonesia, Malaysia,
Papua New Guinea)

Palm Oil Mills at Risk



722 mills affected



High risk of feeding into
the **leakage market**

Objectives



Promote sustainable
industry practices



Influence decision-makers
with insights



Lead in environmental
conservation through data



Encourage responsible
sourcing

Engagement with our findings offers a unique opportunity to foster conservation efforts in the palm oil market. Our strategies and solutions are designed to significantly preserve crucial ecosystems while promoting the industry's long-term sustainability. Together, we can drive impactful changes that benefit the environment and the economy.

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Introduction

The global demand for palm oil continues to rise, driven by its widespread use in food products, cosmetics, and biofuels. However, this increasing demand presents significant challenges in ensuring sustainable production, particularly in addressing deforestation and human rights concerns. Despite the widespread adoption of No Deforestation, No Peat, No Exploitation (NDPE) policies by major traders and brands, supply chain transparency remains a critical weakness, allowing non-compliant palm oil to enter NDPE markets undetected.

In 2024, an investigative report by Earthqualizer Foundation (EQ) and Inovasi Digital (ID) uncovered significant breaches in the palm oil supply chain. The report identified cases where NDPE violations occurred due to a lack of transparency in the supply chain and transaction records. The findings suggest that non-compliant palm oil can continue infiltrating markets committed to sustainability without proper oversight and traceability measures.

Uncovering Orphan Cases

This investigation identifies what **Earthqualizer/Inovasi Digital** refers to as an *Orphan Case*. In this situation, **non-compliance cannot be traced back to specific buyers or supply chain actors** due to missing or incomplete data. These cases seriously threaten NDPE supply chain integrity by creating **loopholes** that allow undetected **deforestation-linked palm oil** to enter the global market.

Orphan Cases are categorized into two distinct groups based on the level of information unavailability:

Category	Details	Risks
Category 1	Plantation group lacks its own mill facility.	<ul style="list-style-type: none">• Difficult to trace where FFBs are processed• Increases risk of deforestation-linked palm oil entering NDPE supply chains.
Category 2	Plantation group owns a mill but lacks identifiable sales records with traders or brands.	Lack of data in public mill lists prevents monitoring and accountability.

This report highlights the urgent need for enhanced transparency and stronger due diligence measures in the palm oil industry. Without addressing the risks of Orphan Cases, NDPE commitments will continue to be undermined, threatening environmental sustainability and corporate responsibility.

The following sections of this report delve deeper into the investigation’s findings, highlighting specific case studies, data analysis, and recommendations to strengthen supply chain oversight and close existing loopholes that enable NDPE violations.

What is an Orphan Case?

An *Orphan Case*, as defined by EQ/ID, refers to an instance of NDPE non-compliance where **no available information exists about the buyer** of the FFBs or the non-compliant group — making it **impossible to trace their supply chain** and increasing the risk of **deforestation-linked palm oil** entering the market. This supply chain uncertainty* is categorized into two distinct categories based on the level of information unavailability

How Orphan Cases are Identified



Figure 1. Workflow used to identify Orphan Cases

Supply Chain Uncertainty*: To address the ambiguity in the supply chain, we employ geographical analysis that measures the area within a 50-kilometer radius of each non-compliant plantation to identify potential mills that may purchase from these plantations. We then investigate their supply chains as an early warning measure.

Overview of Non-Compliance Orphan Cases

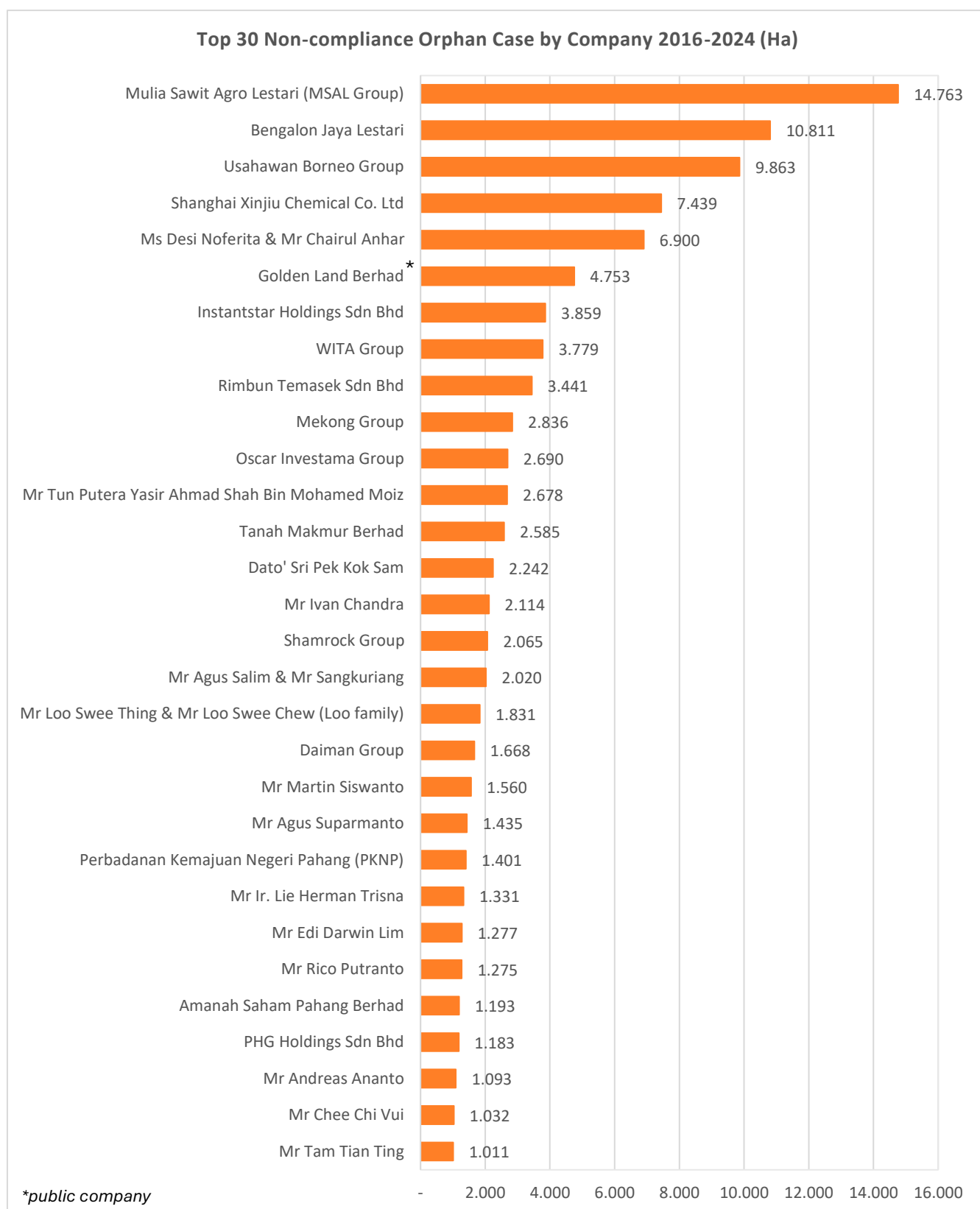
Between 2016 and 2024, Earthqualizer detected deforestation and peatland development related to palm oil plantations across a total area of 471,238 hectares of deforestation and 115,587 hectares of peatland degradation. Many of these cases have been advocated by urging supply chain actors to prevent and mitigate similar incidents in the future.

Out of the total global cases, approximately 103,701 ha of deforestation and 21,391 ha of peatland development remain untraceable regarding supply chain information. These cases, originating from palm oil plantation development in Indonesia, Malaysia, and Papua New Guinea, are defined as **non-compliance orphan cases**.

About 102,128 ha (81.64%) of these orphan cases are linked to 30 palm oil concession groups, each with an impact area exceeding 1,000 ha, while the remaining 22,964 ha (18.36%) are associated with 76 different concession companies. The plantation companies involved in these non-compliance cases are predominantly independent or non-group, while some are publicly listed corporations.

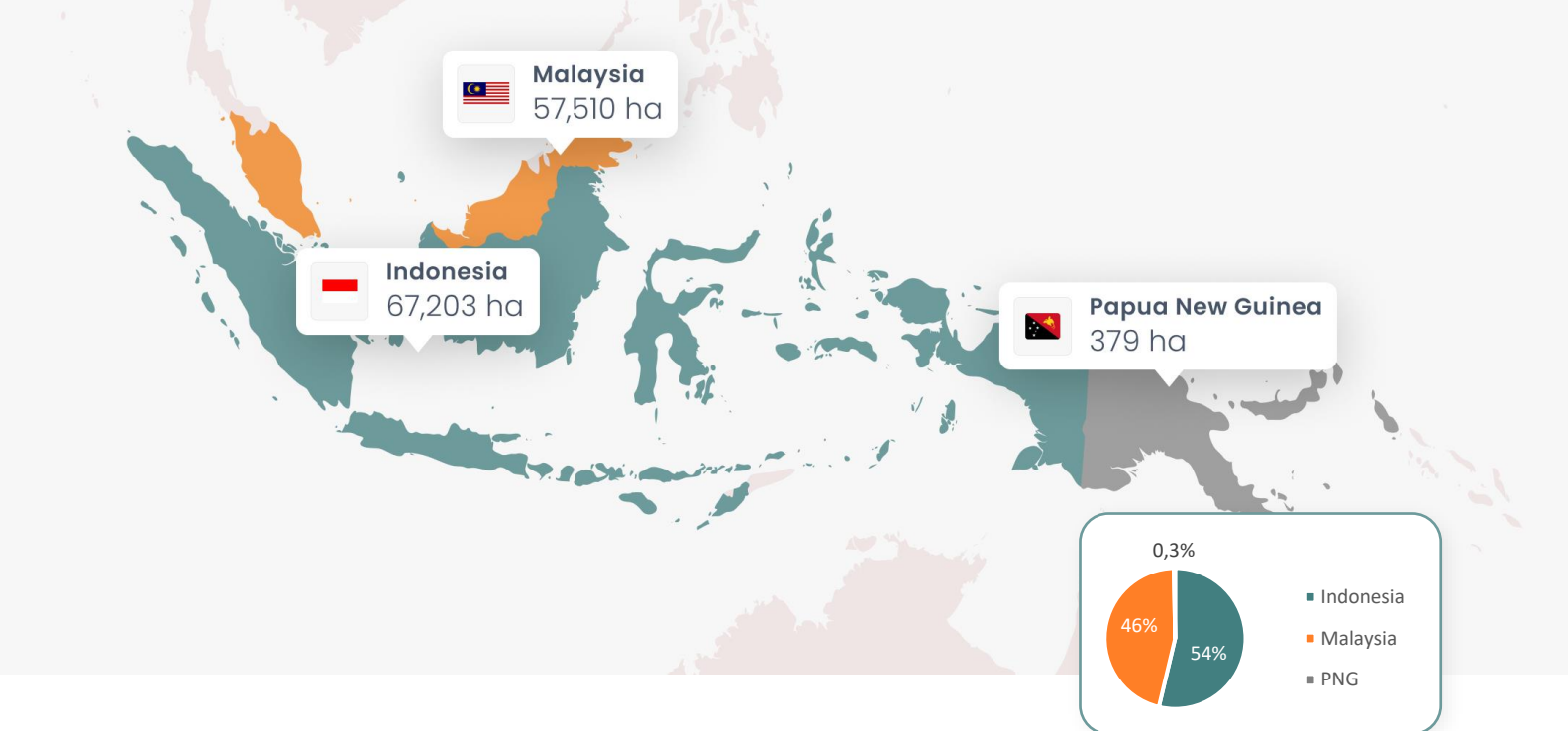


Figure 2. **Top 30 Non-compliance orphan case by company 2016 – 2024**



Spatial Data Analysis of Earthqualizer 2025

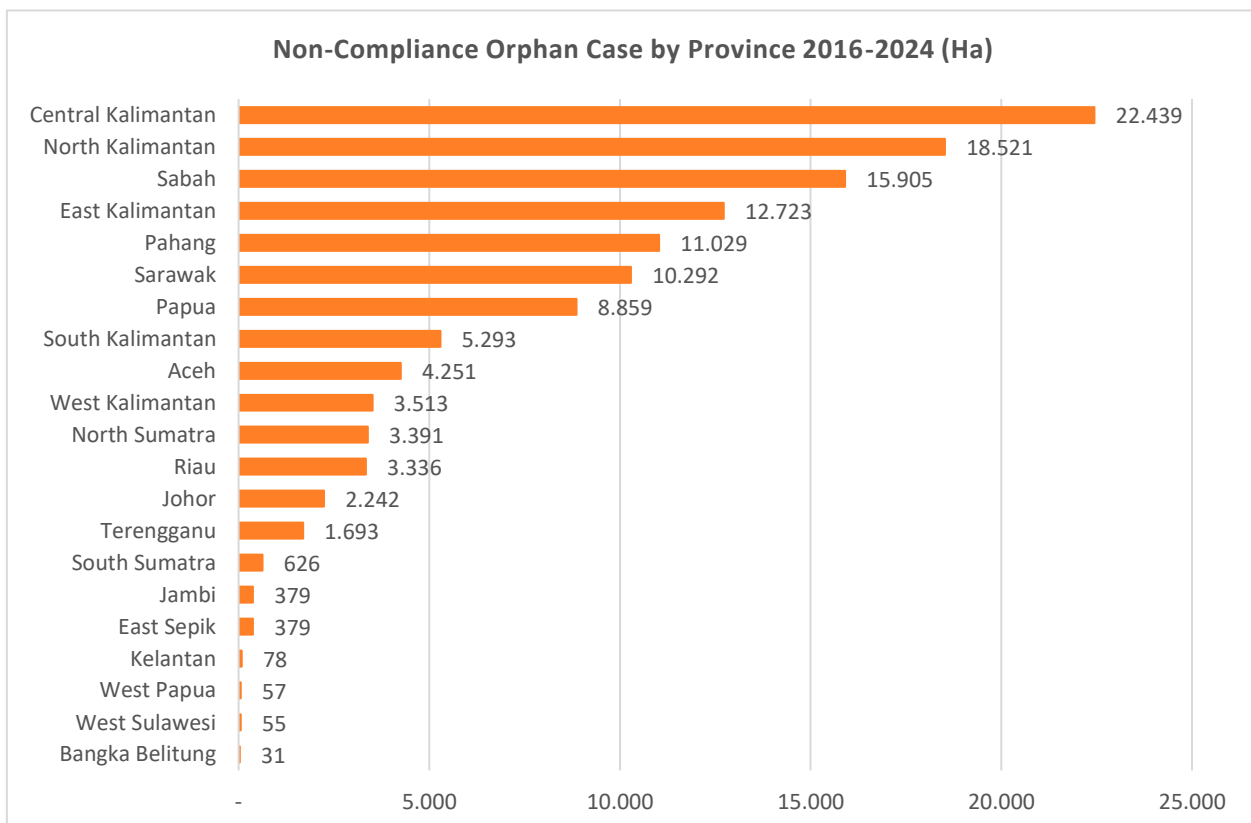
Based on our analysis, several of the largest non-compliant orphan cases listed in the top 30 were most active during the 2018–2019 period, once again highlighting the failure of many buyers, especially those with no-deforestation, no-peat, and no-exploitation (NDPE) policies, to adequately implement their commitments.



From 125,092 ha of total orphan non-compliance cases from 2016 to 2024, Indonesia ranks first with 67,203 ha (53.72%) of total deforestation, followed by Malaysia, which ranks second with 57,510 ha (45.97%), while Papua New Guinea ranks third with 379 ha (0.3%) of total deforestation.

The cases are distributed across 21 provinces/states in Indonesia, Malaysia, and Papua New Guinea, with the largest deforestation and/or peatland clearance (above 10,000 ha) occurring in six Provinces/States, where Central Kalimantan Province ranked first with a total deforestation of 22,439 ha (17.94%), followed by North Kalimantan with 18,521 ha (14.81%), Sabah with 15,905 (12.71%), East Kalimantan with 12,723 ha (10.17%), Pahang with 11,029 ha (8.82%), and Sarawak with 10,292 Ha (8.23%).

Figure 3. **Non-compliance orphan case by Province/State 2016 – 2024**



Between 2016 and 2018, the number of orphan cases reached its peak, increasing from 21,520 ha (8.02%) to 29,171 ha (10.87%). However, from 2019 to 2024, the number significantly declined from **17,733 ha (6.61%)** to **7,711 ha (2.87%)**.

This decline coincided with travel restrictions during the COVID-19 pandemic and the growing adoption of NDPE policies by major palm oil buyers. Nevertheless, rising global palm oil prices and increased domestic market demand (such as for biodiesel) could trigger renewed land clearing for palm oil plantations.

Figure 4. **Non-compliance orphan cases per Year (2016 – 2024)**

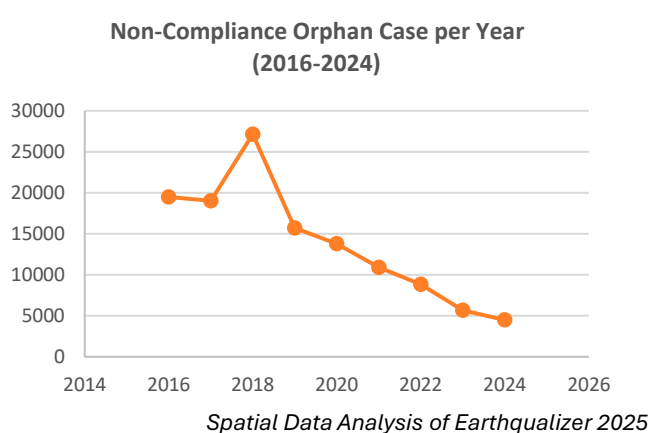
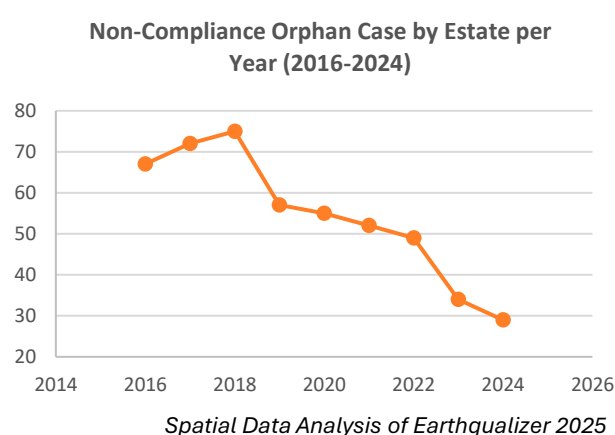


Figure 5. **Non-compliance orphan cases by Estates per Year (2016 – 2024)**



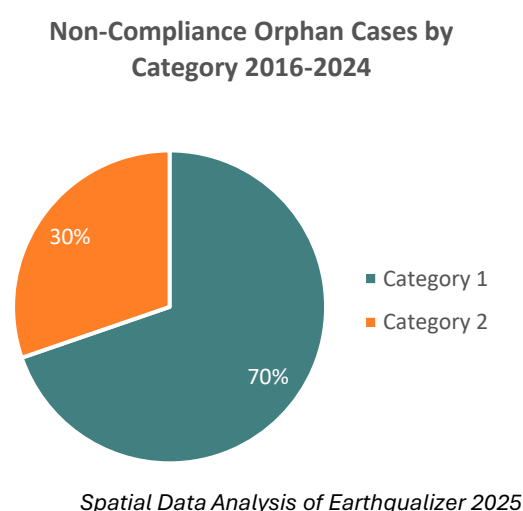
Due to the lack of transaction records of Fresh Fruit Bunches (FFB) sales from plantations to palm oil mills, orphan cases are categorized into two groups:

Category 1: Non-compliant plantations that lack a mill facility, making it difficult to identify which mills process their FFBs. These plantations accounted for **87,224 ha (70%)** of orphan cases.

Category 2: Non-compliant plantations that own a mill facility but lack identifiable records of sales transactions with traders or brands. These cases covered **37,872 ha (30%)** of orphan cases.

With the unavailability of information on the transaction records of the companies in these non-compliance orphan cases, it is nearly impossible to track where these plantations' supply chains end up—whether in refineries, traders, or brand owners—based on publicly available mill lists.

Figure 6. **Non-compliance orphan case Estates per Year (2016 – 2024)**



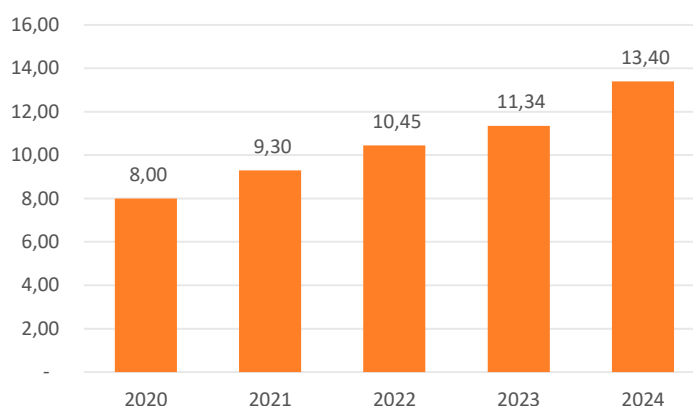
NDPE Market Leakage Risks

Earthqualizer's spatial analysis identified **722 palm oil mills** (covering **618 companies** and **307 corporate groups**) operating within a **50 km radius** of orphan case sites. These mills represent **30% of global mills**, which could potentially purchase FFB from high-risk palm oil production.

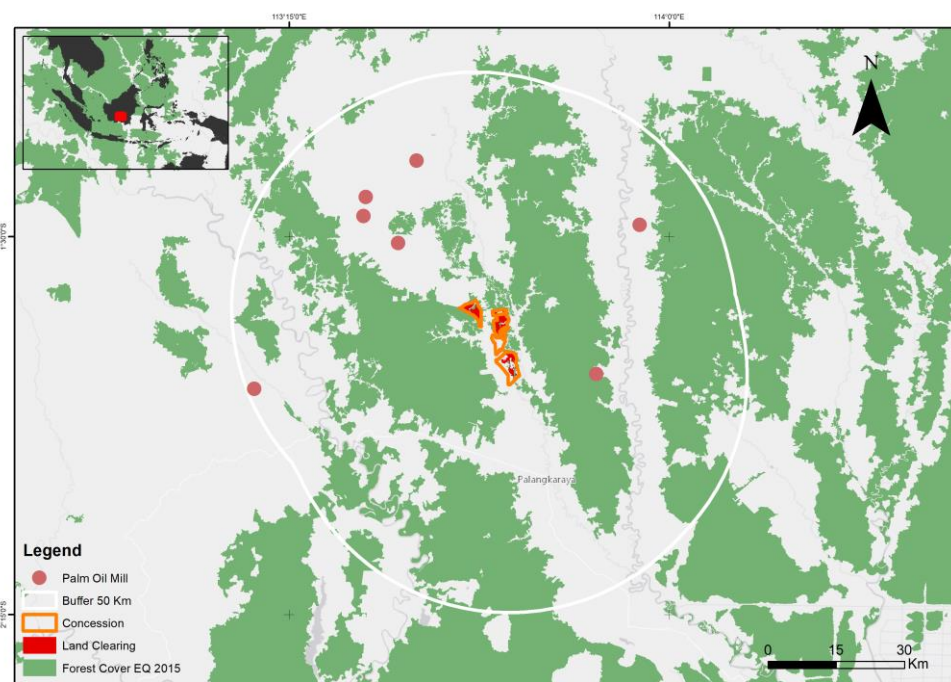
Many of these mills appear on mill lists published by major palm oil buyers (including refiners, traders, and brands), some of which are members of RSPO and CGF. While NDPE commitments exist, there is a significant risk of non-compliant palm oil entering **Indonesia's biodiesel market**, which does not yet require NDPE compliance and lacks transparency in supplier disclosures.

The opportunity for palm oil from non-compliance orphan cases to enter the leakage market is high, considering that biodiesel production has consistently increased yearly, as reflected in official data released by the Indonesian Ministry of Energy and Mineral Resources (ESDM) from 2020 to 2024.

Figure 7. Biodiesel Production in Indonesia (2020-2024)



Picture 1. Example of a non-compliance orphan case in Gunung Mas District, Central Kalimantan and surrounding palm oil mills as potential buyers



This map illustrates an example of an orphaned non-compliance case by PT Mitra Agro Persada Abadi (MSAL Group), which has been involved in the deforestation of 2,794 hectares since 2016 ha.

Through another subsidiary, MSAL Group ranks first in this case of non-compliance. From 2016 to 2024, it was proven to have deforested around 14,763 ha in the Katingan and Gunung Mas Districts, Central Kalimantan.

Spatial Data Analysis of Earthqualizer 2025

Recommendations

1. Enhancing Transparency in NDPE Policies

Many major palm oil buyers, including refiners, traders, and brand owners, have already adopted NDPE policies and suspended suppliers that have proven to engage in deforestation and/or peatland clearing. The **125,092 ha of orphan cases from 2016 to 2024, involving 106 plantation companies in Indonesia, Malaysia, and Papua New Guinea**, highlight the urgent need for more consistent enforcement of NDPE policies.

Additionally, there is a **high risk of non-compliance with the European Union Deforestation Regulation (EUDR)** due to:

- The risk of non-compliance with the EUDR is related to the lack of traceability and the inability to verify whether the sourcing area comes from deforested areas.
- High complexity risk in supply chains, as Fresh Fruit Bunches (FFBs) pass through multiple intermediaries before reaching mills or buyers, making traceability difficult and increasing the likelihood of data loss or inaccuracy.
- High risk of contamination between deforestation-free fruit sources and unidentified sources.

2. Strengthening Field Investigation Capacity

Improving infrastructure and enhancing the capacity of field investigation teams, including using **advanced monitoring technology** to identify **FFB sources and palm oil mill destinations**.

3. Enhancing Regional and Global Investigative Coordination

Initiating **global collaborative networks** that involve **Non-Governmental Organizations (NGOs) and private sector stakeholders** to conduct cross-border investigations of palm oil supply chains. This network aims to **share data on palm oil movement and best practices**, effectively addressing **violations occurring in both regional and global supply chains**.



Recommendations

Key Stakeholder	Recommendations	Action Points
Companies	Enhance Transparency in NDPE Policies	<ul style="list-style-type: none"> • Ensure full traceability of palm oil supply chains • Disclose mill lists and sourcing areas • Strengthen due diligence to prevent sourcing from deforestation-linked areas
	Strengthen Field Investigation Capacity	<ul style="list-style-type: none"> • Invest in advanced monitoring tech and training for supply chain traceability • Partner with investigators to trace FFB sources and mill delivery points
Governments	Enforce NDPE and Deforestation Regulations	<ul style="list-style-type: none"> • Align national laws with EU Deforestation Regulation (EUDR) • Implement penalties for non-compliance • Mandate transparent public reporting of supply chain data
	Support Field Investigation Infrastructure	<ul style="list-style-type: none"> • Provide funding and logistical support for monitoring teams • Facilitate data sharing across agencies
Civil Society/ NGOs	Enhance Regional and Global Investigative Coordination	<ul style="list-style-type: none"> • Build cross-border networks to track palm oil movement • Share data, best practices, and early warnings • Engage local communities in identifying violations
	Raise Public and Market Awareness	<ul style="list-style-type: none"> • Campaign for transparent sourcing from companies • Educate consumers and investors on NDPE risks • Advocate for stronger corporate accountability



Summary and Conclusion

The term "orphan case" is a fitting designation for situations with a lack of transparency and traceability in the supply chain, particularly in the context of NDPE non-compliance within the palm oil sector. This term carries several implications that justify its use:

1. **Lack of Ownership:** The term "orphan" suggests that the case lacks clear accountability or ownership. In the context of non-compliance, it indicates that the palm oil produced under these conditions cannot be traced back to a specific buyer or company. This absence of identifiable stakeholders contributes to the ongoing issues of deforestation and unsustainable practices, making it challenging to hold anyone accountable.
2. **Disconnect from Regulatory Frameworks:** Orphan cases often disconnect from existing regulatory and sustainability frameworks. Without traceable supply chains, it becomes difficult to effectively apply enforcement mechanisms, such as NDPE policies. This lack of alignment further exacerbates the environmental impact of palm oil cultivation as non-compliant practices continue unchecked.
3. **Vulnerability in the Supply Chain:** The term "orphan" also emphasizes the vulnerability of specific areas within the supply chain. These cases can arise when economic pressures, a lack of oversight, or insufficient data collection create environments where questionable practices proliferate. As a result, the regions and ecosystems affected by these orphan cases bear the brunt of unsustainable agricultural practices.
4. **Call for Action and Responsibility:** Naming these situations as orphan cases is a call to action for the industry and stakeholders involved. It highlights the urgent need for improved transparency and traceability in the palm oil supply chain. This designation encourages collective responsibility and initiatives to integrate sustainable practices into all aspects of production and distribution.
5. **Recognition of the Impact:** Finally, the term "orphan case" evokes a sense of loss and neglect, which is appropriate given the significant environmental degradation caused by deforestation and peatland development. Recognizing these instances as orphans underscores the importance of restoration and recovery efforts for ecological integrity and community livelihoods affected by such practices.

In summary, we believe that referring to these instances as "orphan cases" effectively communicates the challenges related to transparency, accountability, and sustainability within the palm oil industry. This terminology emphasizes the urgent need for collective action to tackle these issues, ultimately striving to restore balance between palm oil production's environmental and economic dimensions.





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