



Policy Brief

The Urgency of Improving Palm Oil Governance through a Permit Moratorium Policy from the Economic and Environmental Carrying Capacity (D3TLH) Perspectives

2024



Executive Summary

Indonesia's palm oil industry faces numerous domestic and global challenges. From an economic perspective, the expansion of palm oil plantations does not align with the welfare of the producing regions. The industry is often linked to environmental degradation and various social issues. Global regulations, such as the European Union's Deforestation-free Regulation (EUDR), emphasize the need for sustainability certifications. However, Indonesia's legal achievements and sustainable certifications remain low. From the government's economic perspective, officials have reported a loss of trillions of rupiah in potential tax revenue from the palm oil sector. Furthermore, policies like legalizing illegal land use and licensing systems are plagued by corruption. Recently, the planned increase in biodiesel content from B35 to B50 is expected to drive more palm oil plantation expansion, potentially leading to more significant deforestation.

In 2018, the government issued Presidential Instruction No. 8/2018 on the Postponement of Permits and Evaluation of Palm Oil Plantations to enhance sustainable governance and preserve the environment. The policy aims to reduce deforestation, forest fires, and carbon emissions and is expected to increase palm oil productivity without expanding plantation areas. Regrettably, this policy expired in 2021 and was not renewed.

From an economic perspective, the study shows that a moratorium on palm oil licenses and replanting will yield better long-term economic outcomes, including increases in GDP, income, tax revenue, and employment. By 2045, these efforts are projected to generate economic output of up to IDR 27.3 trillion—higher than the scenario without a moratorium, where output is expected to decline. Further, community and business incomes are expected to be significantly higher if replanting is incorporated under a moratorium. Although palm oil exports may temporarily decline, the moratorium is expected to improve Indonesia's competitiveness in international markets, especially regarding environmental concerns.

Meanwhile, a study assessing carrying capacity and environmental capacity through modeling on the islands of Sumatra, Kalimantan, Java, Bali Nusa Tenggara, Sulawesi, Maluku, and Papua concluded that the upper threshold for oil palm plantations in Indonesia is 18,148,602.96 hectares or approximately 18.15 million hectares. Many existing oil palm plantations are in inappropriate areas, including non-protected forests and wet and dry agricultural areas.

Sumatra and Kalimantan have a surplus of oil palm plantations, while Java, Sulawesi, Papua, and Maluku face a deficit. Palm oil development can no longer proceed on all islands, as many regions have surpassed their environmental carrying capacity, particularly in ecologically vulnerable areas.

Based on economic and environmental findings and analyses, civil society is urging the issuance of policies that improve governance, consolidate data, increase productivity, and generally enhance the economic impact of the palm oil industry. Simultaneously implementing a moratorium and replanting scenario is projected to generate a GDP output of IDR 30.5 trillion and create 827 thousand jobs during the estimation period. In contrast, the palm oil expansion scenario without a moratorium is expected to result in a negative GDP output of IDR 30.4 trillion, generating only 268 thousand jobs over the same period. The civil society is advocating for a **Presidential Regulation** that includes policies from relevant ministries to halt the issuance of new licenses for oil palm plantations. This measure would help maximize economic benefits from the palm oil sector while

respecting environmental and carrying capacities. Additionally, the policy aims to strengthen sustainable palm oil governance, safeguard national and regional economic sustainability, and support Indonesia's commitment to reducing carbon emissions.



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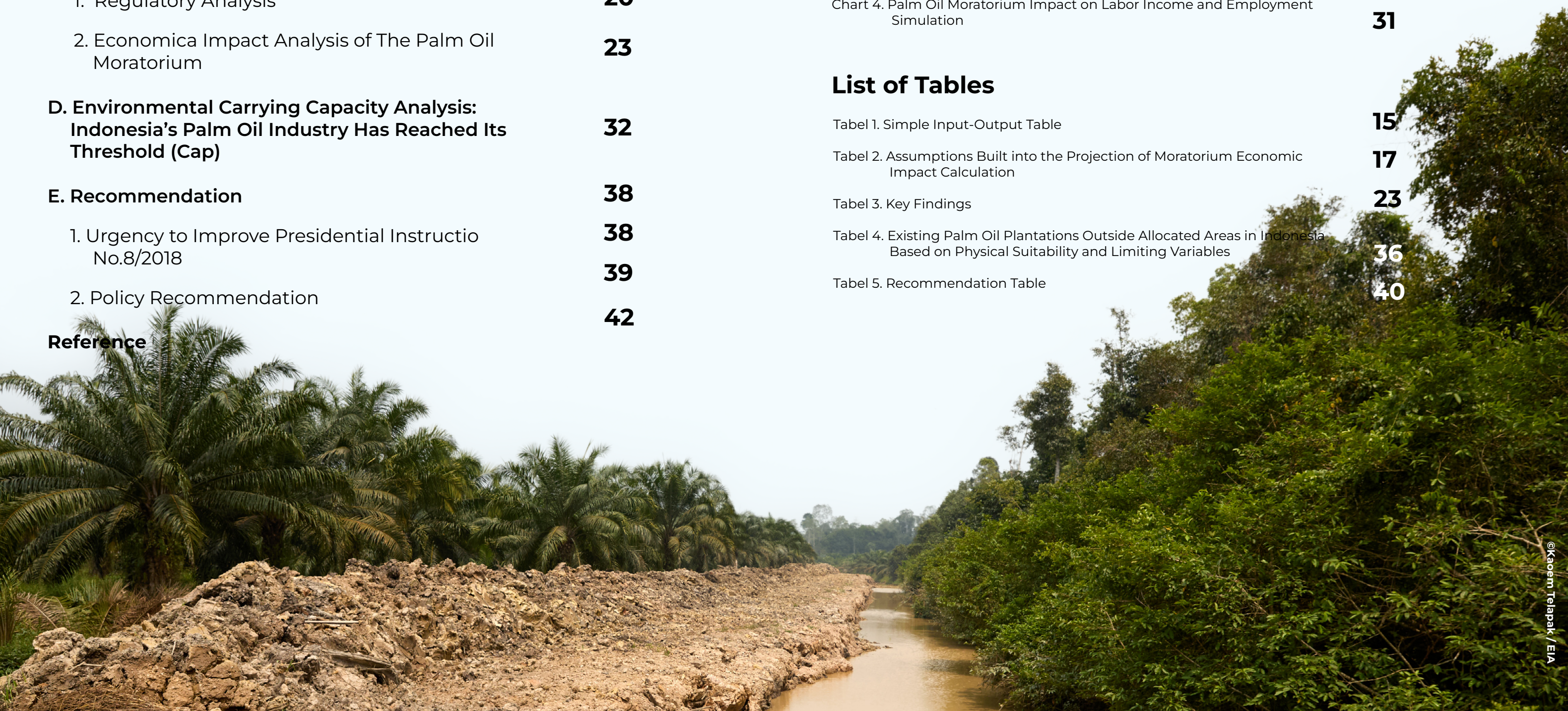
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A. Background

Indonesia is the world's largest palm oil producer. According to data from the Government of Indonesia, as stipulated in the Decree of the Minister of Agriculture Number 833/KPTS/SR.020/M/12/2019, Indonesia's palm oil plantation area covered 16.38 million hectares, with 35% owned by independent smallholders (Sawit Watch, 2022). However, data from Map Biomass Indonesia shows that by 2022, the plantation area had reached 17.77 million hectares. The rapid expansion has positioned Indonesia as a prominent global palm oil industry actor.

As a sector generating substantial foreign exchange, the economic impact of the palm oil industry is often central to government discussions on its development. In 2023, palm oil contributed 600 trillion rupiah in foreign exchange, accounting for 3.5% of Indonesia's Gross Domestic Product. Based on export value, Indonesia provides over 50% of the world's total palm oil exports, with export volumes reaching 27.5 million tons in various forms, including CPO, biodiesel, oleochemicals, and other products (Katadata, 2024). Also, the labor-intensive sector supports the livelihoods of many Indonesians. It provides jobs for 16.2 million workers.

In fact, the governance of oil palm plantations remains problematic, particularly regarding

regulation and implementation. These issues result in significant state losses from various fronts. For instance, the Directorate General of Taxes estimates that the potential tax revenue lost in the palm oil sector is at least IDR 22.83 trillion annually. In contrast, the Corruption Eradication Commission has indicated that potential tax revenue from this sector could reach IDR 40 trillion¹. Additionally, there are costs involved in addressing conflicts and managing the disasters caused by forest and land fires resulting from land clearing for oil palm plantations. The government bears losses from these forest and land fires, which have reached IDR 220 Triliun².

The palm oil industry is closely related to carrying capacity and environmental capacity, as palm oil plantations can significantly impact surrounding ecosystems, including forests, water sources, and biodiversity. Article 6 of Plantation Law No. 39/2014 states that plantation planning must align with regional spatial plans, land and climate suitability, and the availability of land for plantation businesses. However, poorly governed expansion of palm oil plantations can lead to deforestation, land degradation, and damage to wildlife habitats, ultimately diminishing environmental carrying capacity. Therefore,

the palm oil industry must adopt sustainable practices that balance economic productivity with environmental sustainability.

This paper will provide an overview of the urgency of reinstating the moratorium on new palm oil licenses. Collaborating with a civil society network, it adopts economic and environmental perspectives to highlight the significance of such a moratorium. The study employs both quantitative and qualitative methodologies. Data was collected from various official sources covering the period from 2015 to 2023. The timeframe was selected to facilitate comparisons between the three years before the moratorium's implementation, the three years during its enforcement, and the three years following its conclusion.

The study on carrying and environmental capacity employs a quantitative approach using an ecological footprint to assess human resource needs about the available productive land that can supply these resources, specifically palm oil. It also evaluates the land's physical suitability and considers adjustments to predetermined limiting variables. This study focuses on seven major islands in Indonesia: Sumatra, Java, Bali and Nusa Tenggara, Kalimantan, Sulawesi, Maluku, and Papua.

Palm Oil Industry Challenges

The palm oil industry faces various domestic and global policy and market dynamics challenges. Domestically, the growth of palm oil commodities does not align with the economic growth of the producing regions. Additionally, the welfare of communities surrounding plantations remains a concern for many parties. It indicates that severe issues with palm oil governance persist in Indonesia.

Based on TuK's analysis, nearly all of the 25 major palm oil companies are controlled by tycoons and their relatives³. While they may not hold a majority stake, they consistently own the most significant shares, allowing them to control the companies' management and strategy. This concentration of power in the hands of the elite indicates that the palm oil industry and its funding do not reflect an equitable distribution..

Regarding the environment, Forest Watch Indonesia (FWI) reports that oil palm plantations are at risk of clearing approximately 5.7 million hectares of forest in converted production forest areas⁴. Furthermore, data from Madani indicates that out of Indonesia's total of 24.2 million hectares of peat ecosystems, 6.2 million hectares are located within oil palm license areas, of which 3.8 million hectares are covered by peatland. FWI estimates that protecting these 3.8 million hectares of peatland could prevent the release of

A young orangutan with reddish-brown fur is hanging from a tree branch. It is looking directly at the camera with a neutral expression. The background is a blurred forest with green leaves and brown tree trunks.

11.5 million tons of CO₂ emissions each year⁵. By 2021-2022, palm oil plantations are projected to be Indonesia's leading contributor to deforestation, generating greenhouse gas (GHG) emissions of 200 million metric tons annually. The palm oil industry emissions are expected to account for one-fifth of Indonesia's total emissions in 2022⁶.

Other data indicates that palm oil deforestation is rising after declining for over a decade⁷. According to TreeMap's observations, palm oil expansion in Indonesia in 2023 has led to the conversion of 30,000 hectares of forest, a 36% increase compared to the previous⁸. Furthermore, approximately one-third of the 1/3 deforestation attributed to palm oil in 2023 occurred on carbon-rich peatlands, which are known to release significant GHG emissions⁹.

Palm oil has a direct impact on **biodiversity**. The effect of oil palm plantations on biodiversity depends on the scale of their expansion, which leads to deforestation, and how well they can support biodiversity¹⁰. Agricultural expansion, including that of oil palm, is one of the greatest threats to biodiversity. Indonesia is among the most species-rich countries with lowland forests in the world. Consequently, the expansion of palm oil in these lowland forests poses a

significant threat to biodiversity in Indonesia¹¹.

Studies indicate that flora and fauna diversity in palm oil plantations is significantly lower than in lowland rainforests. Habitat loss due to deforestation and land clearing directly diminishes biodiversity, causing a significant decline in species variety¹². Field research in border areas around oil palm plantations in Sumatra also confirmed that these plantations negatively impact biodiversity by replacing natural forests, secondary forests, and even degraded forests¹³. A four-year study in Jambi found that oil palm monocultures provide a poor habitat for most terrestrial mammal species, including endangered species like the Sumatran tiger¹⁴.

Data shows that the number of Bornean orangutans has decreased by 25% over the past decade. Historically, vast areas of Borneo's lowlands were inhabited by orangutans. The primary factor contributing to this is the expansion of oil palm plantations in these lowland areas. About 10,000 orangutans in Borneo inhabit undeveloped forests within palm oil concession areas, and 19% of the island's orangutan habitat falls within these unconverted concessions¹⁵.

On the other hand, the government's ambition for the B35 biodiesel program is expected to require more land. A 2024 study by Satya Bumi indicates that raising the biodiesel blend to 50% will rapidly expand new palm oil plantations. The demand for palm oil to produce biodiesel is predicted to be a

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primary driver of domestic palm oil demand in the coming years. It aligns with an LPEM UI and Greenpeace Indonesia study, which found that an additional 9.3 million hectares of palm oil plantations would be needed to support a B50 program

Regarding carbon economic value, Indonesia has committed to reducing emissions by 31.89% through independent efforts and up to 43.20% with international assistance. The forestry sector leads these reduction efforts, which aim to cut emissions by 17.2% to 38% by 2030. One strategy to assist in achieving this reduction is to halt clearing new land for palm oil plantations.

Regarding the regulation, the existing policies are insufficient to address the challenges in oil palm plantation governance. For instance, the norm concerning legalizing illegal oil palm plantations in forest areas does not effectively resolve the overlapping land management issues. Instead, this policy could lead to significant state losses due to foregone potential

tax

revenue.

Furthermore,
situation

the

remains chaotic because the data has not been synchronized despite the deadline mandated by Presidential Regulation No. 24/2021 having passed. As of September 2024, data on the legalization process for illegal oil palm plantations indicates that only 162 companies have completed all three processing stages^a.

Meanwhile, the palm oil licensing system remains vulnerable to various corrupt practices. Several individuals, including officials and people in business, have been accused of corruption within the palm oil licensing sector, resulting in losses to the state amounting to trillions of rupiah. For instance, when granting export approval facilities for CPO commodities and their derivative products, the state's financial losses reached IDR 6.04 trillion¹⁶. According to findings from ICEL, the typology of violations in palm oil plantations consistently revolves around license administration¹⁷. Business licenses are issued haphazardly, including in forest areas, seemingly disregarding the established licensing system, ultimately leading to a pervasive culture of corruption.

In social and agrarian issues, one significant problem is the social conflicts affecting vulnerable groups in oil palm plantations, including labourers, farmers, local communities, and Indigenous peoples, whose numbers continue to grow. Sawit Watch reported that are currently 1,106 communities in conflict over oil palm plantations. According to the Policy Report on Palm Oil Expansion and Conflicts, which examined 150 cases of palm oil conflicts in Indonesia, three main reasons for the emergence of disputes between oil palm plantations and communities have been identified¹⁸:

1. Palm oil plantations acquire land without community consent;
2. Companies do not implement profit-sharing or plasma schemes (or violate requirements related to plasma schemes), and
3. Companies violate licensing regulations

Regarding the phenomenon of land grabbing. Of the 150 cases analyzed, 99 involved land grabbing by the companies¹⁹. The land was taken through various tactics, such as offering compensation money and getting residents to sign receipts,

later used as proof of consent for land acquisition; using attendance lists from public meetings as evidence of the approval; threatening residents with legal action for obstructing development; and falsifying receipts for compensation payments²⁰.

Plasma schemes frequently lead to conflicts between palm oil companies and local communities. Of the 150 cases studied, 86 involved issues related to plasma schemes²¹. In some instances, conflicts arose because companies failed to allocate plasma land as required by law^b. Another type of conflict concerns the distribution of profits from plasma land, with some communities receiving only around Rp100,000 per month after five years²².

Meanwhile, regarding legality, the Audit Board (BPK) found that millions of hectares of oil palm plantations operate without the Freehold Right to Cultivate. Other data from FWI shows that around 68% of plantations with Mining Business Permits operate without the Freehold Right to Cultivate,

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while 36% of plantations with the Freehold Right to Cultivate (more than 4 million hectares) were granted without a Mining Business Permit²³. This situation highlights that many issues need to be addressed in the governance of palm oil industry licenses, as this factor is one of the main triggers of conflict.

The issue of justice in the palm oil plantation context is further aggravated by how conflict resolution is handled. Of the 150 cases studied, at least 30 demonstrations or blockades were met with violence from local police, Brimob, soldiers, or local thugs. For instance, there was a conflict in Central Kalimantan, where 500 villagers occupied the plantation area of PT MMS. The company responded by deploying police officers, who arrested 43 villagers. On the way to the police station, several protesters were beaten, and one was even shot²⁴.

Another threat is criminalization. Of 150 cases, 63 led to local community members' arrest and even imprisonment. The accusations used seem to be unsubstantiated²⁵. In a case involving PT BAK in Central Kalimantan, one local leader was sentenced to five months in prison for bringing a machete into the plantation. He had been invited by the West Kotawaringin Head of District to perform a ritual butchering²⁶. In another case, Kapa indigenous leaders were arrested by the police after filing a formal complaint with the Roundtable on Sustainable Palm Oil (RSPO)

regarding PT PHP1. They were charged with misuse of public funds based on testimony from PT PHP1 employees and sentenced to three months to one year in prison²⁷.

Globally, several international organizations continue to advocate for implementing sustainable regulations. In Europe, the European Union (EU) Commission has enacted an anti-deforestation regulation (EUDR) covering seven commodities, including palm oil. As a major palm oil exporter to Europe, this regulation will impact Indonesian palm oil exports, particularly regarding the fulfilment of deforestation-free requirements.

Sustainability regulations in the market have encouraged several parties to establish certification systems. There are several certifications in the palm oil sector, such as ISPO, RSPO, and NDPE. However, the certification rate in Indonesia remains very low. For instance, only 25% of palm oil businesses have obtained ISPO certification, which the government regulates. According to the regulation, all palm oil businesses must be ISPO-certified by 2025.

This low achievement will undoubtedly impact Indonesian palm oil's acceptability in the market. As the largest producer with continuously growing production, Indonesian palm oil is expected to be widely accepted globally, improving the macroeconomy. However, we will remain trapped in the same issues without efforts

to reform both regulatory and implementation aspects. As a result, palm oil's contribution to the nation's economy and the welfare of its people will stagnate.





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B. Methodology

B.1. Methodology for Calculating the Economic Impact of the Moratorium Policy

The methodology used to simulate the economic impact of the palm oil moratorium is based on the input-output (I-O) model. This model describes the relationships between economic sectors and how changes in one sector affect others directly and indirectly. The I-O table consists of five main elements:

1. Output

The total value of all goods and services produced by a region's economic or industrial sector.

2. Input

All goods and services a sector needs for its production activities, including intermediate and primary inputs.

3. Final Demand

The demand for goods and services used for final consumption, including household consumption (C), government consumption (G), fixed capital formation or investment (I), stock changes (I), and exports (E).

4. Supply and Final Demand

The demand for goods and services used for final consumption. The Supply includes household consumption (C), government consumption (G),

fixed capital formation or investment (I), stock changes (I), and exports (E).

5. Primary Inputs

The costs include wages and salaries, operating surplus, depreciation, and indirect taxes.

In general, I-O analysis is outlined in Table 1, where inputs are used to produce specific outputs. In the production process, the primary production sector generates inputs for its primary sector and other sectors (secondary and tertiary) in addition to inputs from final demand. In the Input-Output method, the column used for simulation is the final demand column.

		Production Sector			Final Consumption				Total Output
		Primary	Secondary	Tertiary	C	I	G	E	X
Productive Sector	Primary	Z11	Z12	Z13	C1	I1	G1	E1	X1
	Secondary	Z21	Z22	Z23	C2	I2	G2	E2	X2
	Tertiary	Z31	Z32	Z33	C3	I3	G3	E3	X3
Value-Added	L	L1	L2	L3	LC	LI	LG	LE	L
	N	N1	N2	N3	NC	NI	NG	NE	N
Impor	M	M1	M2	M3	MC	MI	MG	ME	M
Total Input	X	X1	X2	X3	C	I	G	E	X

Table 1. Simple Input-Output Table



Wassily Leontief first developed input-output analysis in the 1930s. This analysis simplifies the general equilibrium theory developed by Leon Walras. Inverse Leontief or the inverse matrix of the Input-Output table is the most critical component in Input-Output analysis²⁸. The matrix can explain the activity of an increase in production from one sector (industry) will have an impact on the development of other sectors.

Policy impact refers to the change in the value of final demand components, including household consumption (C), government consumption (G), investment (I), stock changes (I), and exports (E). The basic idea behind this approach is similar to the Keynesian multiplier framework.

For example, if an exogenous variable (in this case, a component of final demand) changes, it shows how much this change affects output increases across different sectors.

An economic policy like investment can be applied across all sectors or to specific sectors. While the total amount may be the same, the strength and interconnections between sectors vary, leading to different impacts. The impacts measured in this study are on economic output and employment.

The methodology includes several main components:

a. Input-Output (I-O) Table

The I-O table models the flow of goods and services between economic sectors, such as the primary (palm oil plantations), secondary (processing industry), and tertiary (palm oil-related services) sectors. The model helps assess the moratorium’s impact on each sector’s total output, consumption, investment, and exports.

b. Direct and Indirect Impacts

Direct impacts include changes in Gross Domestic Product (GDP), Gross Regional Domestic Product (GRDP), exports, tax revenue, labour absorption, and other economic indicators. Indirect impacts refer to business sectors indirectly affected, such as health services, education, and transportation. The model also considers the moratorium’s effect on the income of regions outside the oil palm plantation areas.

Aspect	Moratorium Scenario	Moratorium + Replanting Scenario	Non-Moratorium Scenario
Land Expansion	No additional oil palm land since 2021.	No additional oil palm land since 2021.	Increase in oil palm land by 4% per year from 2024 to 2045.
Productivity	Productivity gradually decreases to 3,6 tons per hectare by 2045	Productivity declines to 36 tons per hectare by 2045, but replanting leads to a 20% increase in productivity from 2031.	Productivity decreases to 3,6 tons per hectare by 2045.
Forest Land	Decrease in new productive oil palm plantation areas and production in forest areas, leading to a 2% increase in forest production per hectare of oil palm land in forests.	Decrease in new productive oil palm plantation areas and production in forest areas, leading to a 2% increase in forest production per hectare of oil palm land in forests.	Increase in oil palm land area within forest zones leads to a decrease in forest production.
Replanting	No replanting program.	Replanting is carried out on 43 thousand hectares of oil palm land, increasing productivity by 20%.	No replanting program.
Social Cost ²⁹	No social costs.	No social costs.	Social costs of IDR 47 million per hectare on 44% of disputed oil palm land.

Table 2. Assumptions Built into the Projection of Moratorium Economic Impact Calculation
Source: Research Team

c. Elasticity Usage Elasticity

Elasticity is used to calculate changes in palm oil productivity resulting from the moratorium, social costs such as environmental losses (biodiversity, water), and recovery costs.

d. Calculation of Social Costs

Social costs arising from the moratorium, including environmental losses, land conflicts between corporations and smallholders, and impacts on local revenues, were calculated using quantitative data from field studies and relevant literature. This study assumes changes in land expansion, productivity, forest land, replanting, and social costs under the moratorium, moratorium plus replanting, and non-moratorium scenarios.

Table 2 is assumptions are used as shocks in the projection:

The methodology used to simulate the economic impact of the palm oil moratorium combines an input-output model with elasticity and social cost data. The data for this study comes from the 2016 Input-Output (IRIO) table compiled by Statistics Indonesia (BPS). The classification used is the Indonesia Input-Output Table Total Transactions at Basic Prices (185 Products), 2016 (Million Rupiah)³⁰. The use of 2016 IO data is based on the availability of the most recent data from BPS. Data on the oil palm plantation area is sourced from Sawit Watch's internal data for 2016-2023.

It offers a thorough overview of the moratorium policy's impact on various economic sectors, directly and indirectly. The assumptions used in the simulations present a realistic standpoint on how productivity, land area, and social costs will change under different scenarios, aiding in the formulation of appropriate and sustainable policies for Indonesia's palm oil industry.

B.2 Methodology for Calculating the Environmental Carrying Capacity

To ensure ecosystem sustainability, the threshold for oil palm plantation areas in Indonesia is determined by considering both carrying capacity and environmental capacity, using the ecological footprint approach. The calculation of Carrying Capacity and Environmental Capacity for oil palm plantations is carried out in four main phases to determine the palm oil (cap) value, as follows:

1. First Phase: Calculation of Human Needs
The calculation of human needs considers several

aspects, such as the need for food, clothing/textiles, living space, public infrastructure, palm oil consumption, emissions, water availability, land cover, and energy, all of which require land to produce the resources used to meet these needs. This calculation uses an ecological footprint calculator based on island-scale areas. The ecological footprint measures human demand for resources in productive land that can supply these resources. The ecological footprint calculator is a tool to measure the demand for various products derived from palm oil (CPO). It converts this demand into the land area (in hectares) needed to produce the required amount of palm oil, providing an estimate of how much palm oil land is necessary.

2. Second Phase: Measurement of Physical Land Suitability
This phase evaluates the physical suitability of an area for oil palm plantations. During this phase, 11 physical parameters are analyzed to determine if the area suits oil palm plantations. These parameters include land elevation, slope, land surface temperature, precipitation, total nitrogen content, water availability, soil organic carbon, soil pH, soil bulk density, topographic wetness index (TWI), and terrain ruggedness index (TRI). This evaluation is crucial to ensure the land is appropriate for oil palm plantations, supporting productivity while minimizing land degradation risk.

3. Second Phase: Application of Limiting Variables
Limiting variables are crucial for the preservation of life. The purpose is to help protect biodiversity and its habitat from the expansion of oil palm

plantations. This phase involves applying 14 limiting variables as filters to identify areas unsuitable for oil palm plantations. These variables include regions with high ecological value, such as Peat Hydrological Units, karst areas, mangrove forests, conservation areas, protected forests, carrying capacity and environmental capacity, water providers based on water districts (WD), high environmental services, primary and secondary forest cover, springs, slopes over 30%, critical land, protected species habitats, customary lands, developed areas, and Key Biodiversity Areas important for biodiversity. Any area identified by these limiting variables is deemed unsuitable for oil palm plantations, emphasizing the need to protect these ecosystems.

4. Fourth Phase: Determination of Palm Oil CAPs
In the final phase, the analysis results from the previous three stages are combined to identify areas suitable and feasible for oil palm plantations. These areas qualify for both physical suitability and compliance with environmental constraints set by the limiting variables. The outcome is a selection of areas marked as thresholds or “palm oil CAPs,” representing locations that fully meet the criteria for oil palm plantation land.

The carrying capacity and environmental capacity approach aims for oil palm plantations to develop sustainably without exceeding environmental limits. It considers economic and productivity aspects and emphasizes maintaining ecosystem balance and protecting areas with high ecological value. Consequently, this approach supports

human life and biodiversity while enabling palm oil plantations to contribute to sustainable economic development without surpassing the carrying capacity and environmental capacity.





C. Discussion

Three primary analyses—regulatory analysis, economic impact analysis, and carrying capacity and environmental capacity analysis — will be presented to strengthen the case for halting license grants and restricting new land development for oil palm plantations. The regulatory analysis examines the 2018 palm oil permit moratorium. Several evaluations and improvements are needed to optimize its implementation, focusing on better governance through consolidated data, transparent and compliant palm oil operations, and increased productivity.

The economic impact analysis also considers how the license suspension could affect the national economy. While the palm oil industry makes a significant economic contribution, this analysis aims to assess its long-term impact on sustainable aspects of the economy, such as employment and state revenue. Lastly, an environmental carrying capacity analysis evaluates how much oil palm activity the ecosystem can support without causing irreversible damage. This approach ensures environmental sustainability, supporting both ecological and social conditions in the long term.

1. Regulatory Analysis

In 2018, the government issued Presidential Instruction No. 8/2018 on the Postponement and Evaluation of Palm Oil Plantation Licenses and the Improvement of Palm Oil Plantation Productivity. This policy was part of the government's efforts to enhance the governance of sustainable palm oil plantations, provide legal certainty, and protect the environment.

The palm oil moratorium policy was initially introduced to reduce deforestation rates, prevent forest and land fires, and decrease carbon emissions³¹. However, since the moratorium policy is no longer in effect, it is important to advocate for its reinstatement and assess the potential contributions that it could offer.

The moratorium on issuing palm oil licenses should focus on enhancing governance to ensure the sustainable management of the palm oil industry. This critical measure will not harm the economy but can provide long-term benefits by promoting efficiency and productivity without expanding land use. Limiting new expansion and prioritizing improved governance protects the environment from forest and peatland degradation. At the same time, the industry continues to drive economic growth through increased value and sustainability.

Implementing the moratorium also contributes to Indonesia's commitments to climate mitigation, biodiversity conservation, and social justice ideals. The moratorium essentially prevents the granting of new licenses, thus directly contributing to reducing the rate of deforestation due to land clearing for oil palm plantation expansion³². The oil palm moratorium is one of the corrective policy instruments that can support the reduction of deforestation and GHG emissions. The policy takes the strategy of delaying the issuance of new licenses in the Forest Estate, evaluating old licenses originating from the release of the Forest Estate, including those still in natural forest, and empowering smallholders to increase productivity to achieve improved governance of sustainable palm oil plantations.

During its implementation period, which ended in September 2021, the palm oil moratorium made progress, including the improvement of the consolidated palm oil cover map as outlined in the Minister of Forestry Decree Number 833/KPTS/SR.020/M/12/2019, the establishment of three regional policies related to the palm oil moratorium, and the successful revocation of 14 company licenses in one province. However, several obstacles related to technical implementation, resource limitations, and the dynamics of central-regional and inter-sectoral relations hindered optimal implementation. The following are several points related to the

evaluation and improvements that highlight the ongoing need for a moratorium policy at present [based on the improvement points outlined in Presidential Instruction No. 8/2018]:

1. Postponement of Licenses

As outlined in the strategy for implementing the Presidential Instruction on the moratorium issued by the Coordinating Ministry for Economic Affairs, seven provinces are prioritized, including Jambi, Riau, South Sumatra, North Sumatra, West Kalimantan, Central Kalimantan, and East Kalimantan, based on the area of existing oil palm plantations. In a one-year analysis of the Palm Oil Moratorium's implementation, the Civil Society Coalition (Koalisi Masyarakat Sipil) highlighted Papua and West Papua as provinces with significant natural forest cover, heavily burdened by palm oil licenses. Our findings show that these nine provinces continue to see an increase in the issuance of palm oil licenses and land expansion.

2. Evaluation of Licenses

a. The moratorium has successfully reviewed Papua, West Papua, and East Kalimantan licenses;

b. However, data consolidation and governance issues still need to be addressed before dealing with the existing licenses;

3. Plantation Productivity Improvement

Current issues in the palm oil sector include tax and retribution leakage, the welfare of

communities around palm oil plantations, the economic conditions of palm oil-producing regions due to production sharing problems, and corruption, which continues to cost the state a significant amount of money.

4. Other Critical Points/Urgency of the Moratorium Policy

a. Improving the Conduciveness of the Business Culture;

The moratorium on palm oil licenses and the halt on new land clearing play a crucial role in fostering a more stable and sustainable business culture. A moratorium with permit reviews will provide clarity for a clean and transparent business environment. With this policy, industry players can focus on increasing productivity on existing land, offering long-term stability for businesses. Over time, this will also enable more effective risk mapping and improve governance in the palm oil sector.

b. Improving the Quality of the Palm Oil Industry from Upstream to Downstream;

The moratorium policy opens opportunities for improving the quality of the palm oil industry across its entire supply chain, from upstream to downstream. It includes advancements in production technology, optimal land use, and a stronger focus on sustainability practices. Additionally, the moratorium will ensure that palm oil in the supply chain complies with legal requirements, follows good agricultural practices, respects labor rights, and is free from land and social conflicts.

c. Encouraging the Sustainability of Global Market Conditions;

The moratorium also significantly supports the global market's sustainability, which increasingly demands deforestation-free commodities with transparent supply chains. With improved management, Indonesian palm oil can meet global environmental and social standards, expanding its access to international markets. Therefore, this policy maintains ecological balance and boosts the competitiveness of Indonesian palm oil products in the global marketplace.

d. Encouraging International Diplomacy Related to Forest Governance and Reducing Deforestation;

The moratorium can strengthen Indonesia's position in forest governance and deforestation reduction efforts. Indonesia can demonstrate a clear commitment to reducing deforestation and promoting

sustainable plantation practices. It will enhance Indonesia's reputation and open up opportunities for cooperation with other countries in various environmental and climate initiatives.

2. Economic Impact Analysis of the Palm Oil License Halt Policy

The palm oil moratorium requires closer examination from an economic perspective. Its success heavily depends on market dynamics, both globally and domestically. These dynamics include fluctuations in crude palm oil (CPO) prices. The CPO price varies significantly and is a key factor in determining the value of Indonesia's exports as the world's leading palm oil producer.

Domestically, tax revenues from the palm oil sector reached IDR 50.2 trillion in the 2023 State Budget. The moratorium creates an opportunity to optimize state revenues from various taxes, such as Land and Building Tax (PBB), Value Added Tax (VAT), and Income Tax (PPh). Although the moratorium restricts land expansion, land and building tax (PBB) revenue can remain stable by updating data collection and increasing the productivity of existing land.

On the other hand, VAT from palm-derived products, such as cooking oil and margarine, will still make a significant contribution, primarily if replanting programs are implemented to boost productivity. Although the moratorium on palm oil exports could affect export duties and taxes, productivity improvement programs are expected to help maintain stability in export volumes and tax revenues. While declining economic activity in plantation areas poses challenges for local tax and other revenue, improved monitoring and tax system reforms could help close the gap between potential and realized taxes in the palm oil sector.

The overall success of the moratorium is heavily influenced by market factors, data accuracy, tax compliance, and land productivity management. Strengthening these factors is crucial to ensure that the moratorium not only supports environmental sustainability but has a positive impact on national and regional economies. This policy study aims to project its economic impact using the Input-Output (IO) / Inter-Regional Input-Output (IRIO) method from 2016 to 2045 to assess the implementation of the palm oil moratorium.

Factors	Moratorium Scenario (2045)	Moratorium + Replant-ing Scenario (2045)	Non-Moratorium Scenario (2045)
Economic Output	Rp 28.9 trillion	Rp 31.3 trillion	-Rp 30.4 trillion
GDP	Rp 28.2 trillion	Rp 30.5 trillion	-Rp 30.4 trillion
Community Income	Rp 28 trillion	Rp 30.4 trillion	-Rp 29.9 trillion
Business Surplus	Rp 16.6 trillion	Rp 17.8 trillion	-Rp 25.7 trillion
Net Tax Revenue	Rp 165 billion	Rp 178 trillion	-Rp 499 billion
Exports	Rp 782 billion	Rp 847 trillion	-Rp 993 billion
Labor Income	Rp 13.5 trillion	Rp 14.6 trillion	Rp 25 billion
Employment	716 thousand people	827 thousand people	268 thousand people

Tabel 3. Temuan Kunci
Source: Research Team

C.2 Palm Oil Moratorium Economic Impact

The following are projections for gross domestic product (GDP), community and business income, state tax revenue, and labor absorption based on three policy scenarios: moratorium, moratorium with replanting, and no moratorium.

1. Impact on Gross Domestic Product (GDP)

As previously noted, all charts depict extreme changes in specific years. In 2016, there was a **substantial increase in the area** of oil palm plantations, followed by a gradual decrease in the subsequent years, based on land data provided by the researchers. In 2024, under the non-moratorium scenario, the chart shows a **significant shift** as **companies can freely expand the area of managed oil palm**. However, the benefits of new land clearing will only be fully realized in the sixth year, meaning the impact of this expansion will become evident in 2030 and beyond.

The simulation indicates that the moratorium impact on GDP will be harmful in the short to medium term. It is because reducing productive palm oil land area automatically reduces production output. However, the negative impact can be minimized in the long run, especially if integrated with a replanting program. Economic output in the moratorium scheme can generate IDR 28.9 trillion, while with the replanting program, it can reach IDR 31.3 trillion by 2045. In comparison, the non-moratorium scenario results in a reduction of economic output by up to IDR 28 trillion.

The moratorium and replanting contributed significantly to GDP, increasing IDR 28.2 trillion with the moratorium and IDR 30.5 trillion with replanting. In contrast, GDP will decrease by IDR 30.4 trillion by 2045 without the moratorium due to higher social costs and more significant environmental losses.

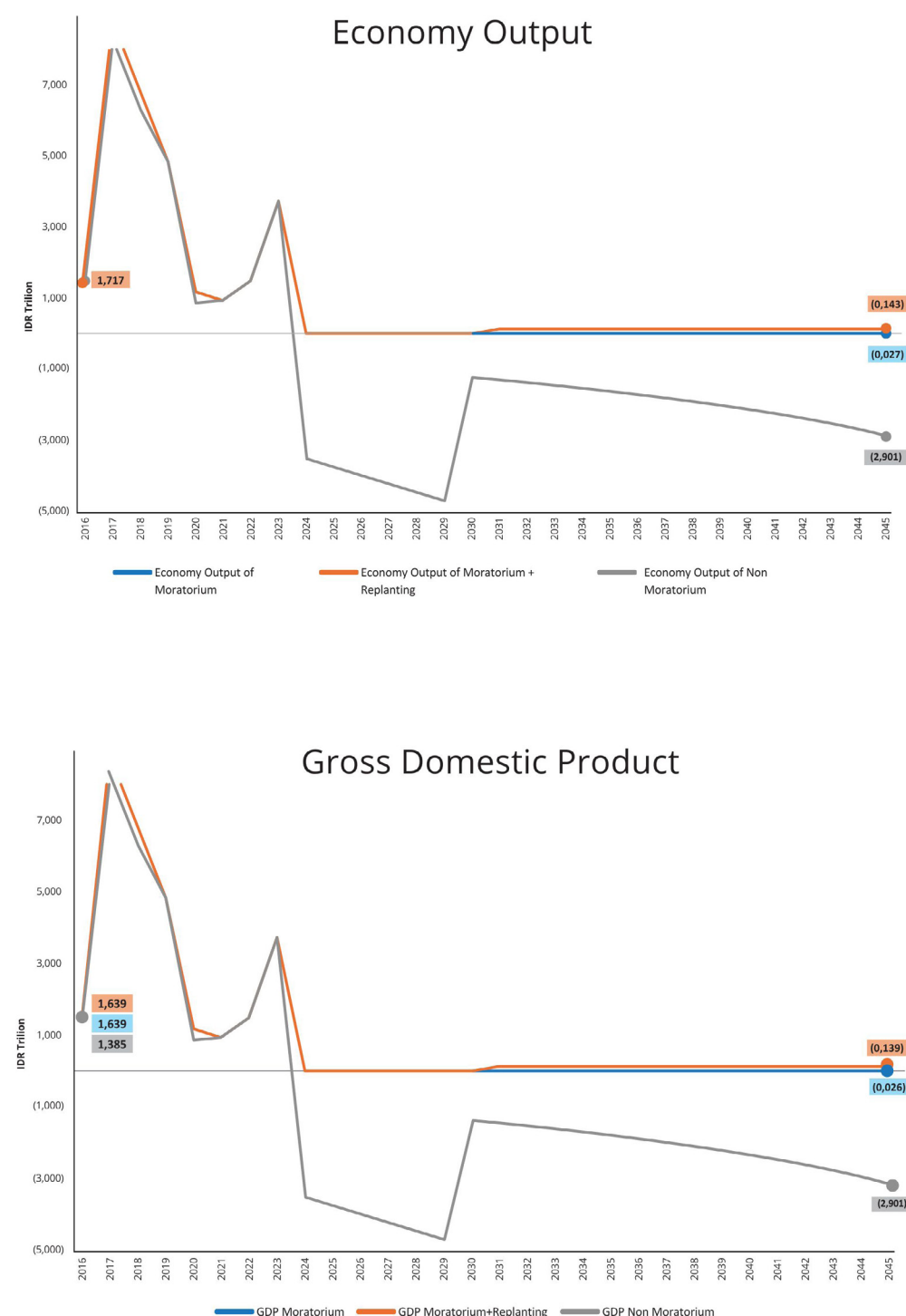


Chart 1. Palm Oil Moratorium Impact on Gross Domestic Product (GDP) Simulation

2. Impact on Community and Business Income

The moratorium has different impacts on the income of the community and the business sector. The simulation shows that lifting the moratorium can increase income for palm oil farmers but negatively affect other related sectors.

Community income under the moratorium scheme shows more positive results, especially with the replanting program. By 2045, community income under the parallel moratorium scenario with replanting is projected to reach IDR 30.4 trillion, and even without replanting, it remains positive at IDR 28 trillion. In contrast, if the moratorium is lifted, community income will drop to IDR 29.9 trillion.

Businesses directly involved in oil palm plantations may see short-term benefits from lifting the moratorium. However, other sectors reliant on the forestry ecosystem, such as forestry and services, will experience a decline in revenue. Overall, the moratorium benefits businesses in the long term.

The moratorium is projected to contribute IDR 16.6 trillion to the business sector while adding replanting could generate a business surplus of IDR 17.8 trillion.

This amount is more stimulating for the business sector than the non-moratorium scenario, which reduces the business surplus to IDR 25.7 trillion.

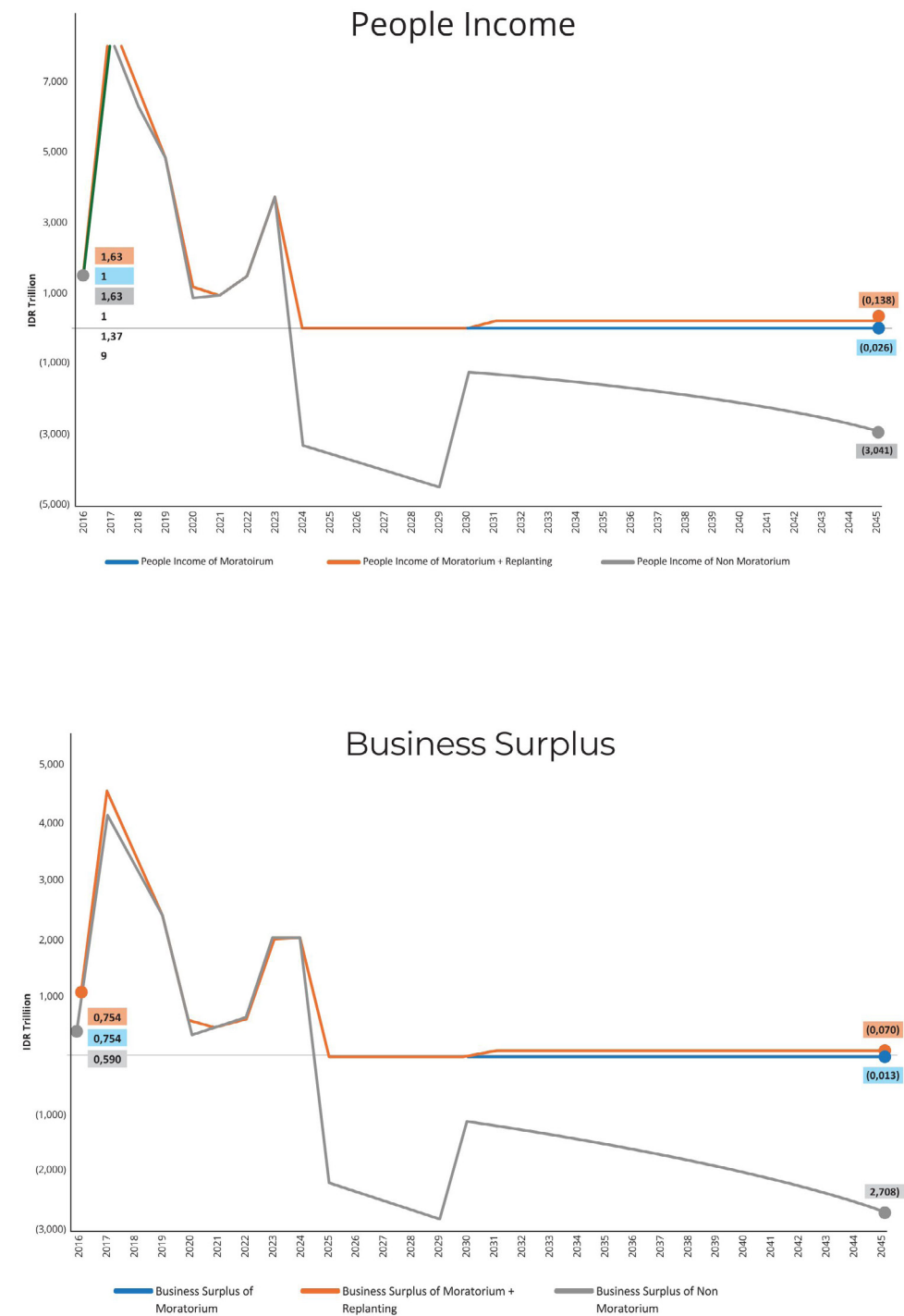


Chart 2. Palm Oil Moratorium Impact on Community and Business Income Simulation

3. Impact on Exports and State Revenue

The moratorium will impact palm oil exports and its derivative products. Palm oil production is limited without land expansion, which could reduce exports. However, the moratorium offers long-term benefits, particularly by boosting competitiveness in markets concerned with environmental issues, such as the European Union, which has strict deforestation standards.

In the short term, palm oil product exports will decline. However, the negative impact on exports of other products (such as forest products and non-palm oil goods) will be less severe than the no-moratorium scenario. The combination of a moratorium and replanting is projected to result in a positive export impact of IDR 847 billion by 2045, while without replanting, the impact is IDR 782 billion. In contrast, without a moratorium, palm oil exports could lose up to IDR 993 billion by 2045.

State revenue from the palm oil sector comes from export taxes, VAT, income tax, and other levies. A moratorium on palm oil, while limiting production expansion, could lead to more stable tax revenues in the long term, especially if combined with replanting. Net tax revenue lost IDR 499 billion without the moratorium, while the moratorium scheme generated IDR 165 billion in net tax. Furthermore, the moratorium scheme, along with the replanting program, could generate up to IDR 178 billion in net tax revenue by 2045.

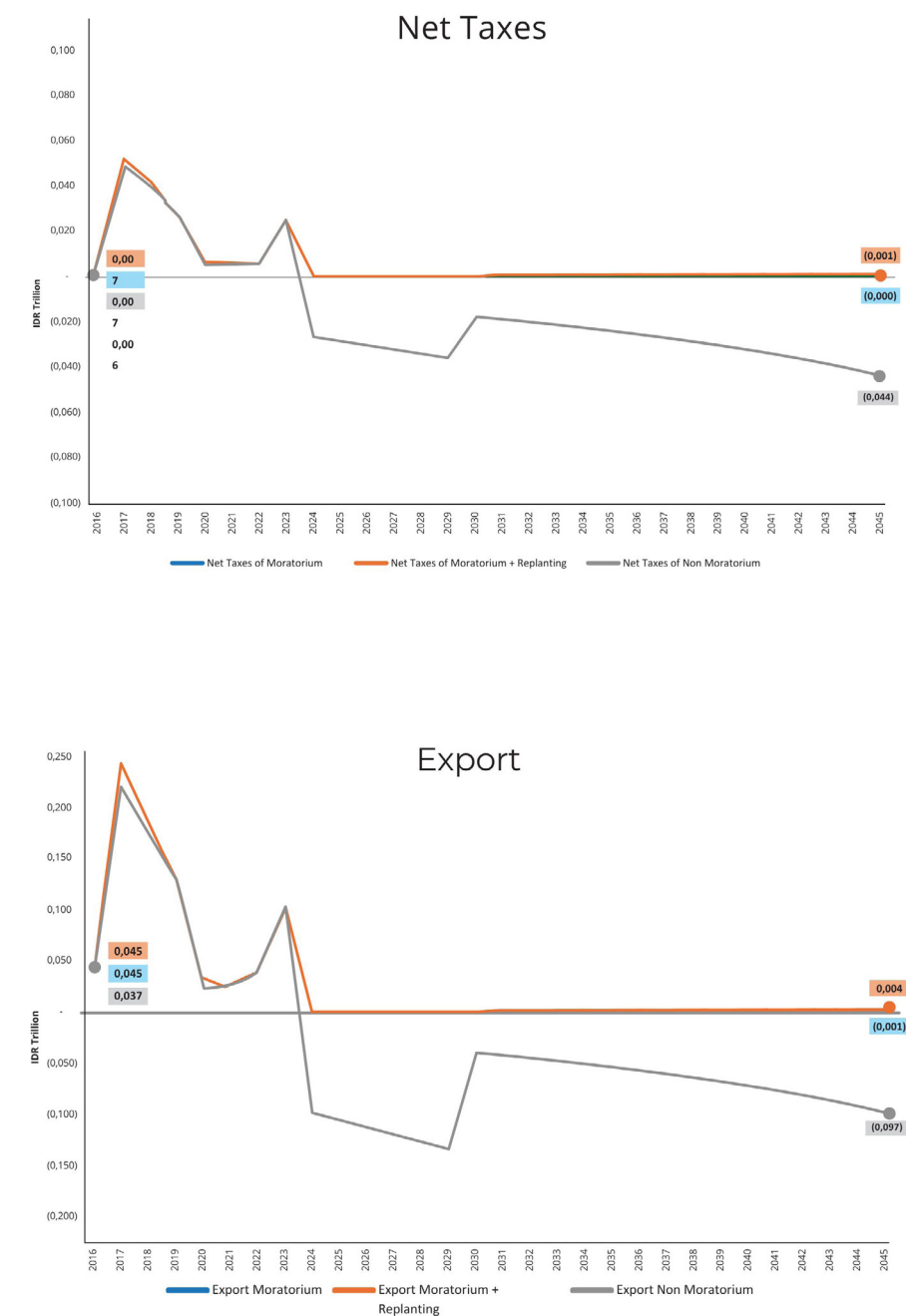


Chart 3. Palm Oil Moratorium Impact on Net Tax Revenue and Palm Oil Exports Simulation



4. Impact on Employment Conditions

The impact of the palm oil moratorium without replanting by 2045 is projected to generate labor income of IDR 13.5 trillion, with 761,371 jobs. Adding replanting can generate an even greater labor income of IDR 14.6 trillion, with 827,017 jobs. Meanwhile, labor income is only IDR 25 billion without the moratorium, though employment would still reach 268,008 people.

The moratorium, especially when integrated with a replanting program, has a more positive impact on various economic indicators than the no moratorium scenario. While there are short-term challenges, the moratorium policy will benefit GDP, public income, state revenue, and labor conditions in the long run. Therefore, the government must enforce the palm oil moratorium policy, particularly with replanting, to positively impact the economy.

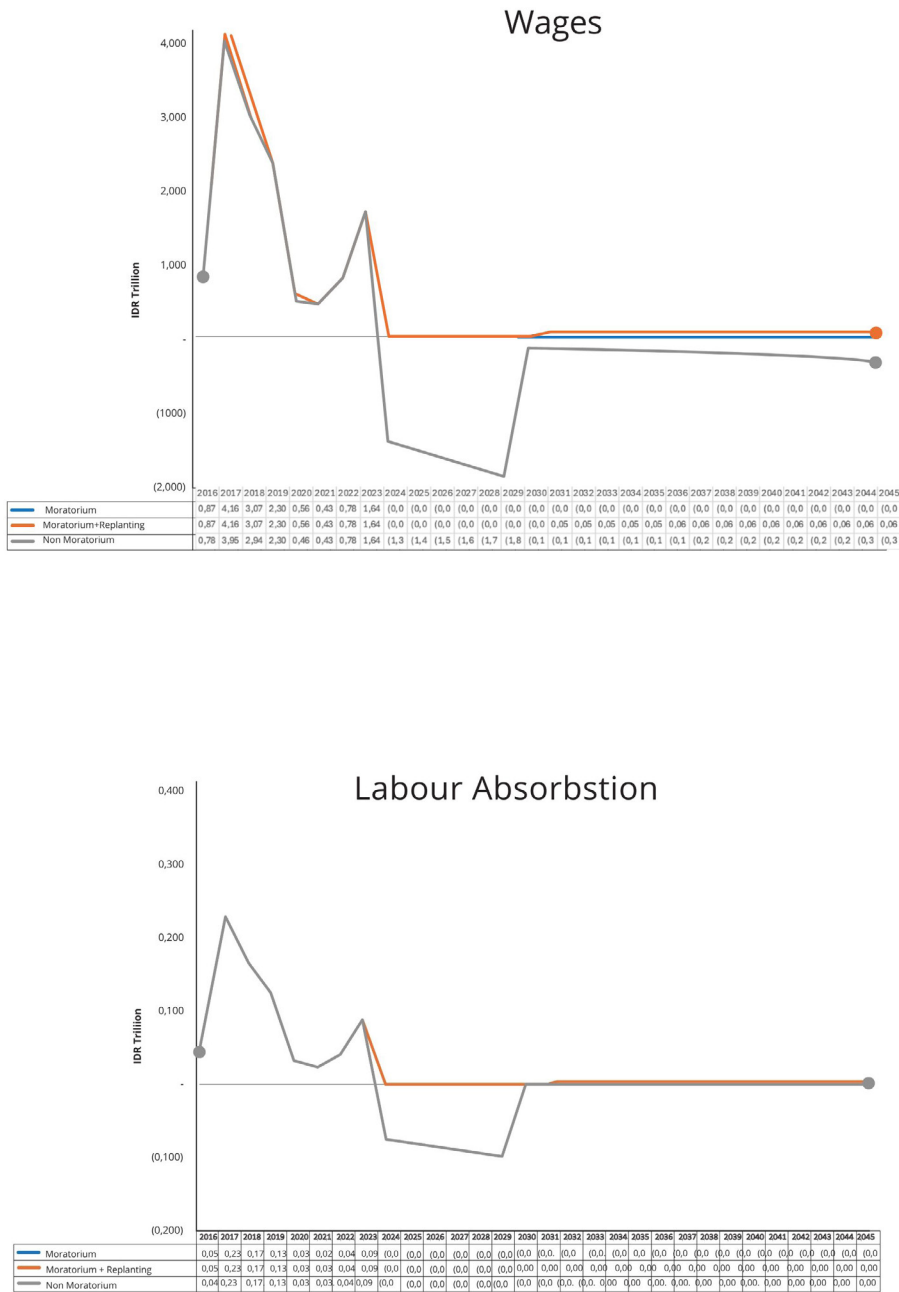


Chart 4. Palm Oil Moratorium Impact on Labor Income and Employment Simulation



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D. Environmental Carrying Capacity Analysis: Indonesia's Palm Oil Industry Has Reached Its Threshold (Cap)

The carrying capacity concept is a supply-and-demand relationship based on ecosystem services that can support the needs of a region's population. As human needs (demand) continue to rise while land resources (supply) remain limited, land use must be allocated in alignment with its carrying capacity. This approach helps prevent resource exploitation from exceeding environmental limits while meeting human needs.

Exceeding environmental capacity will lead to long-term damage. Therefore, palm oil and its derivative products must be managed considering their carrying capacity as commodities produced to fulfill local demand and economic purposes (exports). This approach ensures that oil palm plantations do not cause environmental harm over time while fulfilling intended needs.

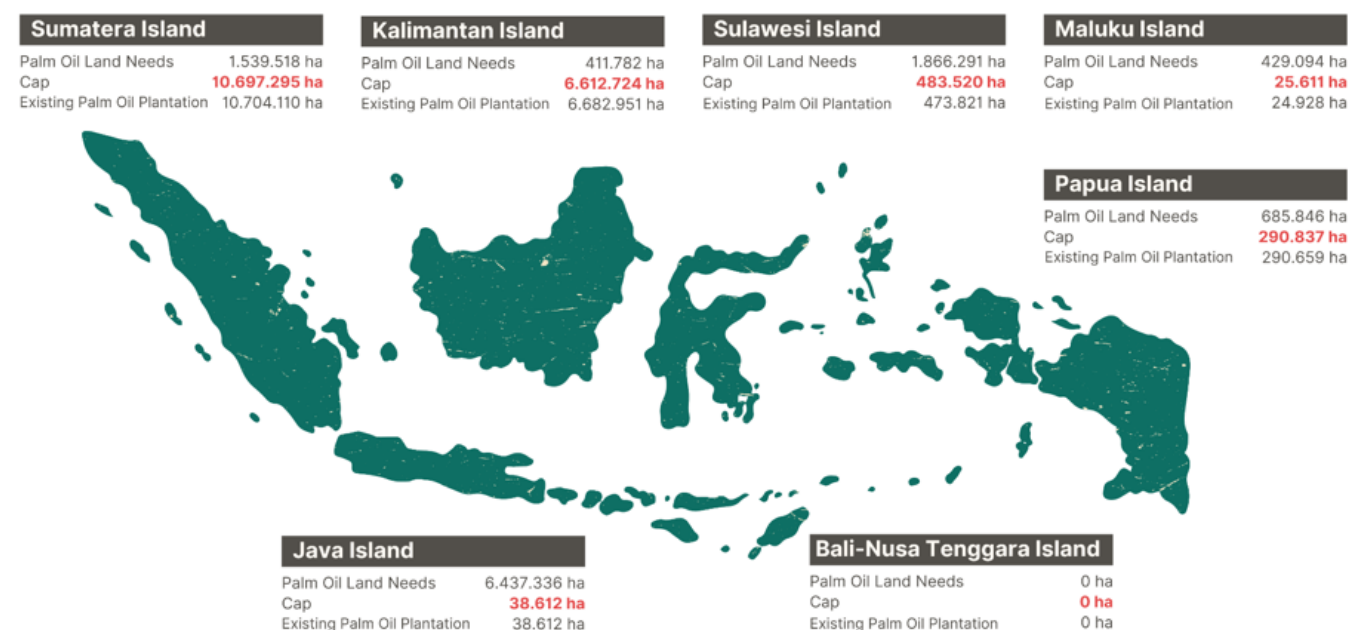
Indonesia's rapid palm oil industry expansion over the last two decades has raised environmental concerns in producing regions, impacting the sustainability of natural forests, biodiversity, and land quality. A threshold level (cap) is needed to assess land capacity across all Indonesian islands

for oil palm plantations. This research applies the carrying capacity and environmental capacity approach, a requirement in the spatial dimension as mandated by the Environmental Law.

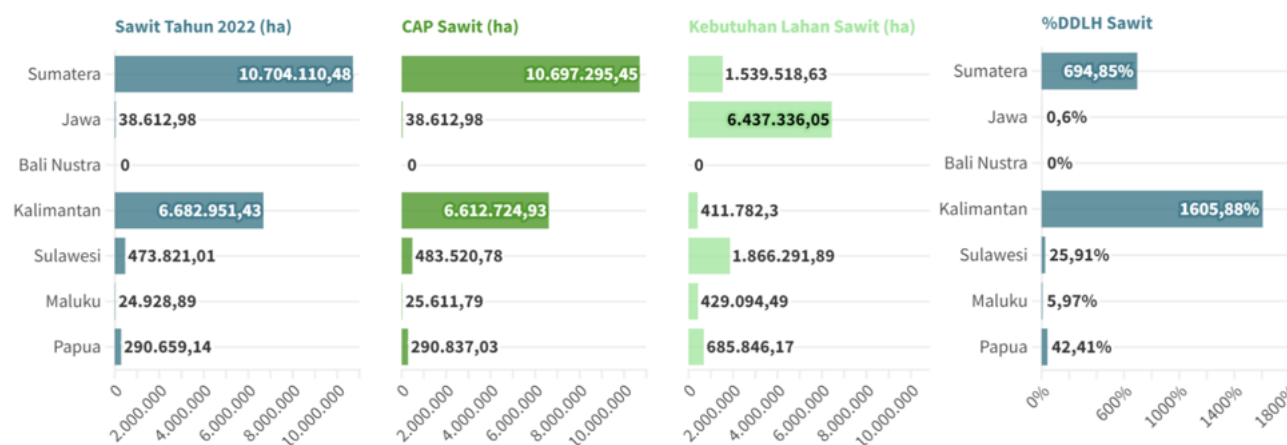
Based on research conducted through modeling on the islands of Sumatra, Kalimantan, Java, Bali-Nusa Tenggara, Sulawesi, Maluku, and Papua, the researcher concluded that the upper threshold (cap) for palm oil plantations in Indonesia is 18,148,602.96 hectares or 18.15 million hectares. The analysis of each island shows that Sumatra and Kalimantan have a surplus of existing palm oil land compared to their needs. In contrast, Java, Sulawesi, Papua, and Maluku have a deficit, with greater demand than the available palm oil land. This calculation uses a scenario where 100% of demand is met with palm oil resources from each region, without any flow of resources between regions. From each island's total palm oil cap area, it is essential to note that certain palm oil areas cannot be further developed due to their location within areas designated as Limiting Variables⁵. This amount is based on modeling the upper limit of palm oil plantations for each island or archipelago in Indonesia. The distribution of these

upper limit values includes 10.70 million hectares on Sumatra Island, 0.04 million hectares on Java Island, 6.61 million hectares on Kalimantan Island, 0.48 million hectares on Sulawesi Island; 0.00 million hectares on Bali-Nusa Tenggara; 0.03 million hectares on the Maluku Islands; and 0.29 million hectares on Papua Island (Picture 1).

These results indicate that oil palm plantation expansion in certain areas has approached or even exceeded the environmental capacity that should be preserved. These suggest that Indonesia is close to striking the threshold compared to the current palm oil area. A more detailed explanation is provided in the table below:



Picture 1. The threshold (cap) for oil palm plantations on each island/archipelago in Indonesia is determined based on carrying capacity and environmental capacity (Source: analysis results, 2024)



Description:

1. Oil Palm in 2022 (ha): Oil palm cover based on Indonesia Biomass Map findings

2.Oil Palm CAP: Calculated upper limit of palm oil area based on Lokahita’s findings

3. Oil Palm Land Demand: Land area needed for CPO and its derivatives in each region (island)

4. Oil Palm % Carrying Capacity and Environmental Capacity: Percentage of oil palm plantations compared to the maximum sustainable limit

How to Read:

(Sumatra)

Current oil palm area: 10.70 million ha. The required land area for Sumatra’s population based on ecological footprint is 1.53 million ha. The research found an upper cap of 10.69 million ha (22.48% of Sumatra’s total area), showing a slight excess of 6,815 ha. As of 2022, the existing oil palm area slightly exceeds the ecosystem’s capacity (cap).

(Java)

Current oil palm area: 38,612 ha. The land requirement for Java’s population based on the ecological footprint is 6.44 million ha. The cap for oil palm is 38,612 ha (0.29% of Java’s total area), indicating no difference between the cap and the current area. The cap is the same as the current area of existing oil palm plantations on Java due to the absence of other land candidates that can be allocated as Palm Oil Plantation based on the results of the land physical suitability assessment and the application of the limiting variables.

(Bali - Nusa Tenggara)

Bali and the Nusa Tenggara Islands are Indonesia’s only seven island regions without existing oil palm plantations. This is due to their ecosystem characteristics, which are dominated by denudational mountains with mixed materials of outer frozen rocks and pyroclastic rocks, as well as monsoon grassland vegetation. The soil in this region is very thin, which limits the growth of vegetation, including oil palm. The suitable vegetation in this area consists mainly of smaller plants, such as savannas and grasslands.

(Borneo)

Current oil palm area: 6.68 million ha. The required land area for Kalimantan’s population based on ecological footprint is 411,782 ha. The research established a cap of 6.61 million ha (12.37% of Kalimantan’s total area), with a difference of 70,227 ha. As of 2022, the existing plantation area significantly exceeds the ecosystem’s capacity.

(Sulawesi)

Current oil palm area: 473,821 ha. The land requirement for Sulawesi’s population based on ecological footprint is 1.87 million ha. The cap for oil palm is 483,520.78 ha (2.60% of Sulawesi’s total area), leaving a difference of 9,699 ha. As of 2022, the oil palm area is approaching the ecosystem’s capacity.

(Maluku)

Current oil palm area: 24,928 ha. The land requirement for Maluku’s population based on the ecological footprint is 429.094 million ha. The cap for oil palm is 25,611 ha (0.33% of Maluku’s total area), with a difference of 683 ha. As of 2022, the oil palm area is approaching the ecosystem’s capacity.

(Papua)

Current oil palm area: 290,659 ha. The land requirement for Papua’s population based on ecological footprint is 685,846 ha. The cap for oil palm is 290,837 ha (0.71% of Papua’s total area), with a minor difference of 178 ha. As of 2022, the plantation area nearly approaches the ecosystem’s capacity.

Based on the above findings, palm oil expansion in Indonesia can no longer proceed across all islands, as many areas have already surpassed the environmental and carrying capacity limits. Existing oil palm plantations have exceeded the optimal capacity in several regions, particularly in ecologically vulnerable areas. It highlights the need for stricter management and re-evaluating oil palm expansion permits to prevent further environmental strain. Without decisive intervention, oil palm plantations could cause irreversible environmental damage, including soil degradation, water quality deterioration, and loss of biodiversity.

Oil Palm Plantations Are Located in Areas that Lack Physical Suitability and Suitability of Limiting Variables

The study also reveals that many oil palm plantations are currently situated on land that should serve vital ecological functions, such as forest areas and biodiversity zones. This situation is concerning, as converting forests into oil palm plantations not only leads to the loss of wildlife habitats but also disrupts the overall balance of the ecosystem. Therefore, there is an urgent need to restrict oil palm plantations from expanding into physically and ecologically unsuitable areas.

The table highlights several issues related to palm oil in Indonesia. Existing oil palm plantations are

located in areas not designated for expansion. The permitting and clearing processes often overlook land status and each region's Urban Land Use Plan. According to the table, palm oil land is found in non-protected/conservation forest areas covering 300,039 ha, in wet agriculture covering 253,172 ha, in dry agriculture covering 1,237,214 ha, and in grassland/scrub covering 17,508 ha. The most significant issues are found on dry agricultural land, with Sumatra having the most prominent area, followed by Kalimantan.

With Indonesian palm oil approaching its threshold, at least three reasons exist to halt the expansion of new palm oil plantations. **First**, since palm oil plantations on the three major islands—Sumatra, Kalimantan, and Papua—have already exceeded the threshold, the focus should shift from opening new plantations to restoring environmental conditions on these islands. Prioritizing the reduction of non-compliant palm oil land should be an essential aspect of Indonesia's plantation governance policy. The government needs to assess palm oil lands' legal and ecological status and rehabilitate areas that should remain as forests or conservation zones. Through these enforcement measures, Indonesia can ensure that palm oil development is carried out responsibly and in line with sustainability principles.

Secondly, the research demonstrated that,

on a national level, the current palm oil area is sufficient to meet the needs of the Indonesian population. Expanding plantations would primarily benefit large business actors, with minimal impact on the community or state revenues. **Third**, the government must continue to prioritize improving the governance and trade systems of the palm oil industry. There is still much work to be done, such as optimizing the achievements of the Indonesian Sustainable Palm Oil (ISPO) certification and smallholder registration, pursuing the legality of plantation land for both the industry and independent smallholders, addressing the issue of palm oil plantations in forest areas, tackling tax evasion in the palm oil industry, and resolving ongoing land and agrarian conflicts in the sector.

Island	Palm Oil Land in Forest Area (Non-Protected/Conservation) (ha)	Palm Oil Land in Wetland Farms (ha)	Palm Oil Land in Dryland Agriculture (ha)	Meadow/Shrub (ha)
Sumatera	202,90	215,012	983,156	7,739
Java	-	-	-	-
Bali-Nusa Tenggara	-	-	-	-
Kalimantan	96,084	37,648	250,324	9,144
Sulawesi	534	512	3,649	370
Maluku	426	-	85	170
Papua	92	-	-	85
Total	300,039	253,172	1,237,214	17,508

Tabel 4. Existing Palm Oil Plantations Outside Allocated Areas in Indonesia Based on Physical Suitability and Limiting Variables



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E. IMPROVEMENT SUGGESTIONS

1. Urgency to Improve Presidential Instruction No. 8/2018

Two analyses, from the perspectives of economics and carrying and environmental capacities, highlight at least two key points. **First**, halting the issuance of new palm oil licenses will have a positive long-term economic impact on the state. The moratorium on issuing licenses and opening new land for palm oil will increase state revenue and create more employment, especially if integrated with a replanting program. Environmentally, this will help achieve ecological balance and support the creation of a healthy ecosystem, as mandated by the Constitution. Second, current palm oil plantations are nearing the threshold (cap) for the ideal carrying capacity and environmental capacity. In fact, many plantations continue to operate in physically and socially unsuitable areas. Therefore, the expansion of palm oil plantations must be stopped.

If the moratorium or halt on new licenses is not implemented, the rate of deforestation due to oil palm plantations is likely to increase again. The effectiveness of Presidential Instruction 8/2018 over three years has proven insufficient to improve palm oil governance. Data from 2019-2020 (during the moratorium) shows that the

most extensive deforestation of natural forests occurred in oil palm plantation concessions, amounting to 19,940 hectares—the largest among the six types of licenses and concessions. Additionally, the area of natural forest within palm oil concessions is significant, totaling 3.58 million hectares according to 2019 data. Therefore, re-implementing the palm oil moratorium can substantially contribute to preserving natural forests, particularly those within palm oil concessions.

Halting the issuance of new palm oil licenses can help prevent deforestation and the loss of habitats for animals, including protected species. The palm oil moratorium also plays a crucial role in preserving natural forests, which are vital for biodiversity conservation. Additionally, the moratorium can serve as an opportunity to assess plantation activities, not only in forest areas but also in High Conservation Value Areas (HCVA), including High Conservation Value Forests (HCVF) and other High Conservation Value Areas (HCVA).

Based on the explanation above, the palm oil moratorium can significantly resolve conflicts and address the injustice experienced by communities in conflict with palm oil plantation companies. Through the moratorium, the legality of plantations concerning land rights can be

reassessed. Specifically, the moratorium can help identify whether companies comply with plasma realization obligations and how they implement the plasma scheme. Other violations related to licensing can also be uncovered. Therefore, the moratorium can serve as a crucial moment to drive improvements, not only in environmental aspects but also in the social dimensions of the palm oil industry.

The government has issued policies at multiple levels to address the various issues in the palm oil industry, ranging from Presidential Instructions to Ministerial Regulations. However, fundamental problems remain unresolved to this day. These ongoing issues include the leakage of state revenues from both tax and non-tax sectors, license violations in various forms, low welfare among oil palm farmers, low productivity about the area of existing oil palm plantations, deforestation caused by land clearing for oil palm, and numerous other challenges throughout the palm oil supply chain at both micro and macro levels. Given the urgency of these unresolved problems, we believe it is crucial to re-issue a policy to halt the issuance of new licenses for oil palm.

2. Policy Recommendation

Based on the findings and analysis presented, civil society advocates for several alternative policies to support improved governance,

consolidate data, increase productivity, and enhance the palm oil industry's overall economic impact while considering the limitations of carrying capacity and environmental capacity.

No	PIC	Regulation Form	Regulation Target
1	President	Presidential Regulation A Presidential Regulation (Perpres) is a vital legal instrument because it has a regaling character. Compared to a Presidential Instruction (Inpres), a Perpres is broader and can address a wider range of issues, such as the mandate to improve governance more comprehensively.	Halt the issuance of all new palm oil plantation licenses Stop the expansion of oil palm plantations both within and outside the company's concessions Develop a clear roadmap to improve palm oil governance, enhancing data quality, productivity, and law enforcement against violations
2	Minister of Investment and Downstream/Head of BKPM	Ministerial Regulation After implementing the integrated licensing system through Online Single Submission (OSS), the Ministry of Investment/BKPM becomes the custodian and overseer of all licensing systems, including palm oil.	Stop the granting of new palm oil plantation licenses
3	Ministry of Forestry	Ministerial Regulation Referring to Government Regulation No. 23 of 2021 on Forestry Implementation	Resolve palm oil issues in forest areas by enforcing more stringent laws; Stopping the clearance of forest areas for new licenses
4	Ministry of Agriculture	Ministerial Regulation Referring to Law No. 32/2009 on Environmental Protection and Management	Structure licenses based on spatial planning, the environment, and land tenure Strengthen and consolidate all palm oil data
5	Ministry of Agrarian Affairs and Spatial Planning	Ministerial Regulation Referring to Law No. 32/2009 on Environmental Protection and Management Referring to Law No. 32/2009 on Environmental Protection and Management, this regulation should address issues from the Presidential Instruction on the moratorium by providing technical guidance for regional implementation and clearly outlining the management of reviewed former licenses.	Consider environmental carrying capacity and capacity limits in spatial planning Implement detailed post-review land management with a clear mandate for the Regional Government and relevant local agencies
6	Ministry of Finance	Ministerial Regulation	Establish a fiscal policy instrument, such as an ecological tax, as a disincentive. It could combine an accelerated carbon tax at a reasonable rate and a deforestation tax for violations of palm oil plantation caps.
7	Ministry of Energy and Mineral Resources	Ministerial Regulation	Limit the biodiesel mix to B35 to prevent palm oil stamp violations, reduce foreign exchange exports, and minimize the risk of social conflict.

Table 5. Recommendation Table

Footnote

- a 78 companies have received a Decree on the Determination of Work Area Arrangement, 29 companies have received a Decree on the Principle of Release Approval, and 55 companies are still in process with the integrated team.
- b Plantation companies must facilitate the development of community farms covering at least 20% of the land area within 3 years of receiving the Freehold Right to Cultivate, as outlined in Article 58 of the Plantation Law, amended by the Omnibus Law on Job Creation.
- c Limiting variables refer to areas that hold essential value for sustaining life directly (e.g., springs, developed land) and indirectly (e.g., peat hydrological units, karst formations, mangroves).

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