



Madani

MADANI INSIGHT

APRIL 2021

**EXAMINING THE FACTS
BEHIND INDONESIA'S DEFORESTATION
2019-2020**

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EXECUTIVE SUMMARY

- 1. Deforestation in the 2019-2020 period saw the largest decline in history, which was 75% from the 2018-2019 period.** However, the decline was mostly contributed by the decline in gross deforestation of plantation forests by 99% from 277,700 hectares in the 2018-2019 period to 2,181 hectares in the 2019-2020 period. Meanwhile, the gross deforestation of natural forests only decreased by 38% from the previous period. Nonetheless, deforestation of natural forest in 2019-2020 remains the lowest in the last 10 years.
- 2. The extent of deforested secondary natural forests was not balanced out with reforestation.** In the 2019-2020 period, around 104,590.5 hectares of secondary natural forests were deforested, but reforestation of secondary forests were only 206.8 hectares or 5.7% of the total reforestation. The largest reforestation occurred in plantation forests (timber plantation), which amounted to 3,425 hectares or 94.3% of the total reforestation. Meanwhile, the loss of primary natural forests cannot be offset by reforestation at all.
- 3. Three (3) of the 5 provinces with the largest natural forests deforestation are in Indonesia's eastern region, namely West Nusa Tenggara, Maluku, and East Nusa Tenggara – while nationally, the highest deforestation is registered in West Kalimantan.** Deforestation in West Kalimantan covered areas of 13,090 hectares, followed by West Nusa Tenggara with 12,018 hectares, Maluku 8,538 hectares, East Nusa Tenggara 8,221 hectares, and Central Sulawesi with 8,014 hectares. At the district level, the 10 districts that contributed to the highest natural forests deforestation in 2019-2020 only came from 5 provinces, namely West Kalimantan, West Nusa Tenggara, Maluku, Central Kalimantan, and Central Sulawesi. From highest to lowest, those districts are Ketapang District (West Kalimantan), Dompu District (West Nusa Tenggara), Kota Baru District (South Kalimantan), East Seram District (Maluku), Central Maluku District (Maluku), Sumbawa District (West Nusa Tenggara), Kapuas Hulu District (West Kalimantan), Bima District (West Nusa Tenggara), Katingan District (Central Kalimantan), and Sigi District (Central Sulawesi).
- 4. 62% of natural forests deforestation occurred in the Sigil Forest Zone,** the highest in Production Forests (20%), Limited Production Forests (18%), and Convertible Production Forests (5%). Unfortunately, deforestation of natural forests also continued to occur in areas that should have been protected, which are Protected Forests (13%) and Conservation Areas (6%).

5. **Deforestation continued to take place in areas that should have been free from natural forests deforestation.** For example, in the PIPPIB (Indicative Map of the Termination of the Granting of New Permits) – which contributed to deforestation of 27,000 hectares of natural forests and 20,000 hectares of peatlands ecosystems – the highest occurring in the protected peatland ecosystems with 11,600 hectares. In addition, deforestation has been taking place in the PIAPS (Indicative Map of Social Forestry Areas) of 9,944 hectares and Indigenous Territories of 6,400 hectares.
6. **The largest natural forests deforestation among the 6 permit/concession areas occurred in palm oil plantation permits,** amounting to 19,940 hectares. Deforestation of natural forests in palm oil plantation permits were scattered in the APL (non-Forest Zone), the Forest Zone, as well as areas that have been certified by ISPO, RSPO, or covered by NDPE - although the figures are much smaller than those in areas that were not certified. Apart from palm oil plantation permits, the highest natural forests deforestation occurred in oil and gas concessions covering 12,300 hectares, followed by IUPHHK-HA (logging concession) covering 10,400 hectares, mineral and coal mining concessions covering 8,900 hectares, IUPHHK HT (timber plantation) of 8,700 hectares, and IUPHHK-RE (ecosystem restoration) of 269 hectares.
7. **Indonesia's largest natural forests are located in the Forest Zone with production functions (Limited Production Forests, Permanent and Convertible Production Forests),** which are around 46.5% or 41,103,070 hectares. The most legally threatened natural forests are those in Other Use Area (APL) or the non-Forest Zone and Convertible Production Forests (HPK), covering an area of 6,722,655 and 5,732,411 hectares, respectively. After the Job Creation Law (*Undang-Undang Cipta Kerja*), natural forests located in Permanent Production Forests –which now include Permanent Production Forests and Limited Production Forests– can also be released, among others for national strategic projects, national economic recovery, land acquisition for food security (Food Estate), and business activities which have been built and owned permits in the Forest Zone prior to the enactment of the Job Creation Law.
8. **The largest natural forests located in the permitted/concession areas are in palm oil plantation permits,** which covered 3.58 million hectares, of which more than 1 million hectares are primary natural forests. The second largest is found in the IUPHHK-HA (logging) concessions (16.4 million hectares), oil and gas (8.37 million hectares), mineral and coal (7.82 million hectares), and IUPHHK-HT (timber plantation) (3.2 million hectares).
9. **Around 1.39 million hectares of primary forests outside the permitted/concession areas and PIAPS need to immediately be included in PIPPIB.** Currently, the Indicative Map for the Termination of the Granting of New Permits (PIPPIB) covers areas of approximately 66.2 million hectares. However, there are still many natural forests that need to be included

in the protection scheme to avoid potential deforestation and degradation. Natural forests that have not been protected by PIPPIB outside the permitted/concession areas and PIAPS are recorded at 9.48 million hectares, of which 1.39 million hectares are primary natural forests.

10. **Indonesia has succeeded in reducing natural forests deforestation below the NDC deforestation limit.** In the First NDC, Indonesia determined that to achieve its NDC climate commitment by 2030, deforestation must not exceed 450,000 hectares in the 2013-2020 period and 325,000 in the 2020-2030 period. Of the 7 periods after 2012, natural forests deforestation went below the deforestation limit of 450,000 / year in 4 periods of 2013-2014, 2017-2018, 2018-2019, and 2019-2020. In the 2018-2019 and 2019-2020 periods, Indonesia's natural forests deforestation went even below the 2020-2030 deforestation limit of 325,000 / year. Therefore, Indonesia has room to increase its climate ambition by lowering the deforestation quota in the Updated NDC.
11. **In the Low Carbon Compatible with Paris Agreement (LCCP) scenario or the most ambitious scenario of the 2050 long-term strategy on low carbon and climate resilience (LTS-LCCR), Indonesia's deforestation is targeted to decrease, but not yet to reach zero.** The deforestation rate in the 2010-2030 period in the LCCP is set at 241,000 hectares / year. The actual deforestation of natural forests in the 2010-2019 period reached 4,909,498 hectares. To stay within the LCCP deforestation quota limit this decade (2020-2030), the remaining quota of Indonesia's natural forests deforestation were only 151,502 hectares or around 13,7 thousand hectares per year.
12. **To align with the LCCP scenario, Indonesia must reduce deforestation of natural forests so that it does not exceed 71 thousand hectares per year for the next 30 years.** Overall, from 2010-2050, the most ambitious scenario still allows deforestation of 7,041,000 hectares. If it is reduced by deforestation of natural forests in the 2010-2019 period, the remaining quota of Indonesia's deforestation in the 2021-2050 period remains around 2,131,502 hectares or around 71,050 hectares per year.
13. **Apart from efforts to reduce deforestation rates,** achieving climate commitment and the 2050 Long-Term Vision also requires Indonesia to reduce degradation, prevent forest and peatland fires, rehabilitate forests and land, and restore peatlands.



INTRODUCTION

In March 2021, the Indonesian government released Indonesia's latest deforestation figures (2019-2020) and announced the largest reduction in deforestation in history by 75%. The reduction in deforestation received international applause because it portrays a positive trend amid the increasing rate of forests losses globally.

This April edition of Madani Insight aims to increase public understanding of Indonesia's recently announced deforestation figures and its meaning for the achievement of Indonesia's climate commitment (NDC) and the Paris Agreement targets to keep the Earth's temperature rise at 1.5 degrees Celsius.

This paper is divided into three parts. **The first part** examines Indonesia's deforestation figures and where deforestation has occurred the most, including within the permitted or concession areas. **The second part** examines the extent of Indonesia's natural forests that have not been protected and are therefore vulnerable to deforestation. **The third part** examines the meaning of Indonesia's declining deforestation from the perspective of achieving both the climate commitments and target of the Paris Agreement.

DEFINITIONS

In order to understand the meaning of Indonesia's deforestation figures, it is crucial to understand various definitions of deforestation used by the Government of Indonesia as described below.¹

- **Deforestation:** Changes in land cover conditions from Forest (forested) land cover class to Non-Forest (non-forested) category of land cover class.
 - **Forest:** Land cover conditions in the form of primary dryland forests, secondary dryland forests, primary swamp forests, secondary swamp forests, primary mangrove forests, secondary mangrove forests, and timber plantations (plantation forests).
 - **Non-Forest:** Forms of land covers which take form in shrubs/thickets, marsh scrubs, savanna/grasslands, plantations, dryland agricultures, dryland agriculture mixed with shrubs, transmigration, rice fields, embankments, open land, mining, settlements, swamps, and air/sea- ports.
- **Net Deforestation:** Change/reduction of forested land cover area in a certain period, obtained by deducting gross deforestation (*deforestasi bruto*) with reforestation figures.
 - **Reforestation:** A change in land cover condition from a non-forest category land cover class (non-forested) to forest category land cover class (forested)
- **Gross Deforestation (*Deforests* Bruto):** Change in land cover condition, from forest category/land cover class to non-forest category land cover class without consideration of reforestation taken place.
- **Gross Deforestation of Natural Forests:** Change in land cover condition from natural forest cover class to non-natural forest category. Gross Deforestation of Natural Forest is used to separate changes in land cover conditions, from forest

¹ Ministry of Environment and Forestry. 2020. Indonesian Deforestation 2018-2019. Directorate of Inventory and Monitoring of Forest Resources. Directorate General of Forestry Planning and Environmental Management. Ministry of Environment and Forestry: Jakarta.

land cover class into non-forest land cover class, that is not caused by the harvesting of timber plantation (plantation forest).

This paper will focus on gross deforestation or deforestation of natural forests which are crucial for maintaining global climate stability, preserving biodiversity, and most relevant to efforts to achieve Indonesia's climate commitments.

PERKANTORAN KEMENTERIAN
BUKTI KEMERDEKAAN DAN PERSEKUTUAN

PROGRAM REHABILITASI WETAN GIGI LAMAR
MAGAZIN KEMERDEKAAN DAN PERSEKUTUAN

LOKASI	TEGA KTC KARUNTA TAMEN	LAMPUNG KAMPAS TERANG DORONGAN SOLIT
MINYAK GIGI	JAWABRETT HA	
TARGET	TTK KALAM, NANTU BURUK PALA	
JENIS/DAFTAR WETAN	DANS BILANGAN KEMERDEKAAN	
SUMBER DANA	KELANGKAPAN	
PELAKSANAAN		

PART ONE

1.1 EXAMINING DEFORESTATION FIGURES OF 2019-2020

In March 2021, the government through the Ministry of Environment and Forestry (KLHK) published Indonesia's deforestation figures for 2019-2020 of 115,459.8 hectares. The figure is a net deforestation, which is the gross (*bruto*) deforestation rate (loss of natural forests and timber plantations) of 119,091.6 hectares minus the number of reforestation (secondary natural forests and timber plantations) of 3,631.8 hectares.²

Secondary natural forests were the most heavily lost, but forests which grew back the most were timber plantations/plantation forests.

On a gross basis, Indonesia's largest forest losses in 2019-2020 were in the secondary natural forest class, which covered 104,590.5 hectares or 88% of the total gross deforestation. This indicates lack of protection for secondary natural forests because there has been no protection from new permits for secondary natural forests aside for those located in protected areas, conservation areas, or PIPPIB. Furthermore, the extent of lost secondary natural forests was not matched by the magnitude of reforestation in the same class. In 2019-2020, secondary natural forests that were successfully reforested were only recorded at 206.8 hectares or 5.7% of the total reforestation.

In 2019-2020, the largest reforestation was the regrowth of timber plantations, not natural forests. Reforestation of timber plantations in this period was recorded at 3,425 hectares or 94.3% of the total reforestation that had taken place.

² Presentation of the Directorate General of Forestry Planning and Environmental Management, Ministry of Environment and Forestry - 2021, "Forests and Deforestation in Indonesia 2019-2020," March 2021.

The decline in deforestation figures for 2019-2020 was largely contributed by the reduction in deforestation of timber plantations/plantation forests.

Indonesia's 2019-2020 net deforestation is declared to have decreased by 75% from the 2018-2019 period and is claimed to be the largest decline in history. However, this drastic decrease was largely contributed by the reduction in deforestation of timber plantations or plantation forests and not natural forests.

It is important to analyze the gross forest loss in each forest class (without calculating the reforestation figure) because that is where we can find out how much natural forests have been lost. The loss of natural forests is very difficult to replace and the loss of natural forests in a certain location cannot be immediately replaced by reforestation in another area, let alone by reforestation of timber plantations.

The gross reduction in deforestation in each forest class is presented in the following table.

Table 1. Indonesia's Gross Deforestation Decrease

No.	Category	2018-2019	2019-2020	% of Reduction
1	Gross Deforestation of Natural Forests	187.900	116.911	38%
1.a	Primary Natural Forests	23.900	12.320	48%
1.b	Secondary Natural Forests	164.000	104.591	36%
2.	Gross Deforestation of Timber Plantations	277.700	2.181	99%

Source: KLHK (2019 and 2020)

As seen in Table 1, on a gross basis, deforestation of timber plantations is the largest contributor to the reduction of deforestation in Indonesia in 2019-2020. Timber plantations loss in 2019-2020 decreased 99% from the previous period. This suggests that there was not much timber harvesting during such period.

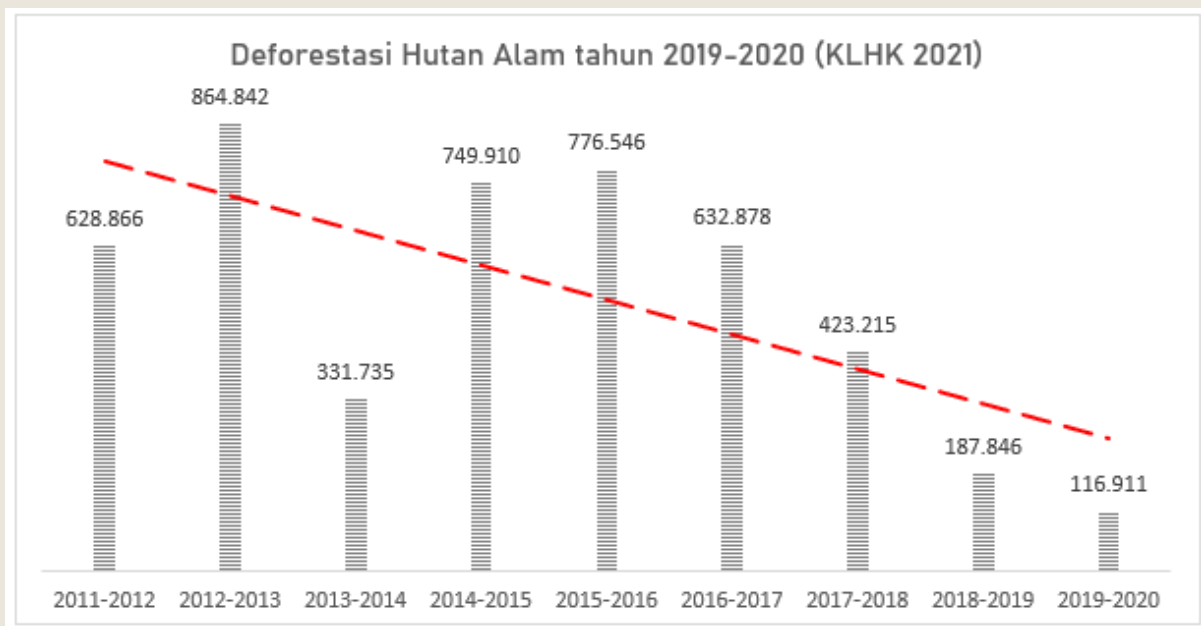
The good news is that the loss of primary natural forests has also dropped significantly from the previous period, namely by 48%. Unfortunately, the decline in the loss of secondary natural forests was not as much as primary natural forests. The loss of secondary natural forests only decreased 36% from the previous period.

The next section will focus on Indonesia's natural forests deforestation, which needs to be reduced as far as possible so that Indonesia can achieve its climate commitment in the NDC and the 1.5 degrees target under the Paris Agreement.

Natural forests deforestation of 2019-2020 is the lowest in the last 10 years

Although the decrease was not as significant as timber plantations', natural forests deforestation for the 2019-2020 period covering an area of 116,911 hectares is the lowest in the last 10 years (see Figure 1). This should be appreciated and maintained in the future. In fact, Indonesia needs to further reduce its natural forest loss to achieve not only the climate commitment in the NDC in 2030 but also the Paris Agreement target to prevent the Earth's temperature rise exceeding 1.5 degrees Celsius by the end of this century.

Figure 1. Natural Forests Deforestation Rate of 2019-2020 (Ha)

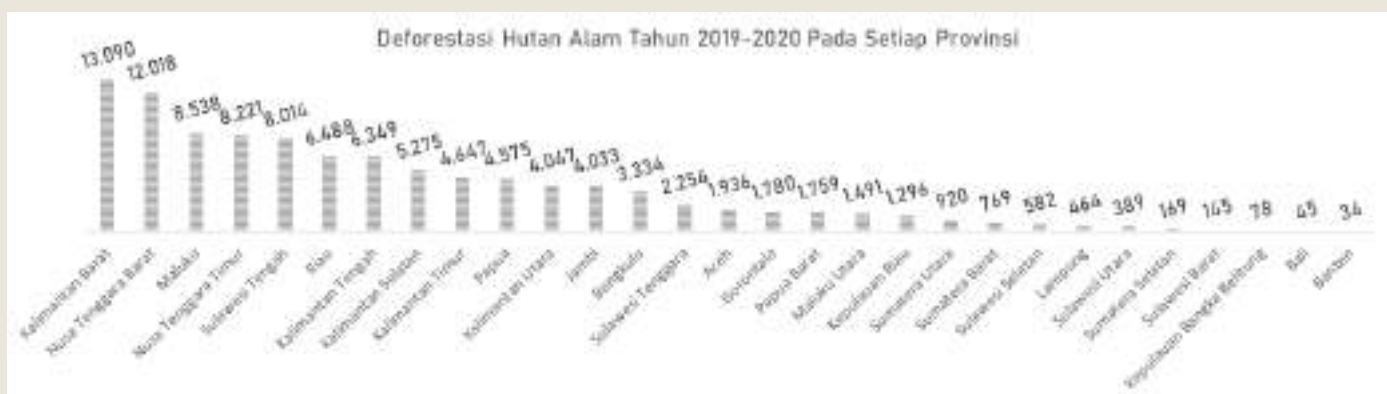


Source: KLHK Deforestation Data (2020)

1.2 NATURAL FORESTS DEFORESTATION AT PROVINCIAL AND DISTRICT LEVELS

As of this writing, the Government of Indonesia has not issued the 2019-2020 Deforestation Book, which contains details of natural forests deforestation distribution in each province. However, Madani's analysis results based on data that can be publicly obtained, West Kalimantan province was the highest contributor to natural forests deforestation in 2019-2020; followed by West Nusa Tenggara, Maluku, East Nusa Tenggara, and Central Sulawesi (see Figure 2).

Figure 2. Natural Forests Deforestation of 2019-2020 in Every Province (Ha)



Source: KLHK deforestation data of March 2021, Administration Boundaries (RBI 2019)

Note: The data of deforestation of natural forests recorded by Madani were derived from data that can be analyzed by the public, which only amounts to 102 thousand hectares, around 14 thousand hectares smaller than the government's natural forests deforestation data of 116 thousand hectares.

3 of the 5 provinces that are the largest contributors to deforestation of natural forests are in Indonesia’s Eastern region

Three of the 5 provinces with the largest natural forests deforestation in the 2019-2020 period are located in the eastern region of Indonesia, namely West Nusa Tenggara, Maluku, and East Nusa Tenggara. Papua Province is in the top 10 provinces that contributed to natural forests deforestation while West Papua is in 17th place.

10 districts that are the largest contributors of natural forests deforestation came from only 5 provinces

At the district level, the 10 districts that contributed the highest natural forests deforestation in 2019-2020 only came from 5 provinces, namely West Kalimantan, West Nusa Tenggara, Maluku, Central Kalimantan, and Central Sulawesi. From highest to lowest, these districts are Ketapang District (West Kalimantan), Dompus District (West Nusa Tenggara), Kota Baru District (South Kalimantan), East Seram District (Maluku), Central Maluku District (Maluku), Sumbawa District (West Nusa Tenggara), Kapuas Hulu District (West Kalimantan), Bima District (West Nusa Tenggara), Katingan District (Central Kalimantan), and Sigi District (Central Sulawesi) (see Figure 3)

Figure 3. 10 Cities/Districts with the Highest Natural Forest Deforestation Figures of 2019-2020 (Ha)



Source: KLHK deforestation data of March 2021, Administration Boundaries (RBI 2019)

1.3 NATURAL FORESTS DEFORESTATION WITHIN AND OUTSIDE THE FOREST ZONE

Natural forests deforestation mostly occurred in the Forest Zone, as continued to happen in Protected and Conservation Forests.

Based on government data reviewed by Madani, around 62% of natural forests deforestation occurred in the Forest Zone (around 64.3 thousand hectares) while natural forests deforestation in Other Use Area (APL) or the non-Forest Zone was only 37% (around 38.4 thousand hectares).

In the Forest Zone, the highest natural forests deforestation occurred in Production Forests (20%) and Limited Production Forests (18%), while natural forests deforestation in Convertible Production Forests (HPK) was recorded at 5%.

Natural forests deforestation in the Forest Zone may reflect both planned and unplanned deforestation, depending on whether or not a permit for deforestation was granted. Therefore, natural forests deforestation in each function of the Forest Zone does not necessarily indicate the actor or driver of said deforestation; further details are required to determine in whose areas did natural forests deforestation take place. However, one thing that needs to be underlined is that natural forests deforestation continued to happen in areas that should be protected, such as in Protected Forests (13%) and Conservation Areas (6%).

Figure 4. Natural Forests Deforestation of 2019-2020 in Every Function of the Forest Zone (Ha)



Source: KLHK Deforestation Data of March 2021, Forest Zone (KLHK Geoportal accessed in 2019)

What is unfortunate was the high loss of primary natural forests in the Protected and Conservation forests, which covered 5,724 hectares.³ The primary forests loss in these protected areas was even greater than in the APL of 4,397.2 hectares and in Production Forests.

Natural forests deforestation within PIPPIB continued with large figures

The PIPPIB (Indicative Map of the Termination of the Granting of New Permits) should be deforestation-free. However, the fact is that in 2019-2020, PIPPIB contributed significantly to natural forests deforestation covering areas of 27 thousand hectares (23%). Natural forests deforestation in PIPPIB is higher than in palm oil plantation permits, oil and gas concessions, IUPHHK-HA (logging concessions), mineral and coal mining concessions, IUPHHK HT (timber plantation concessions), IUPHHK-RE (ecosystem restoration concession), PIAPS (indicative social forestry areas), and indigenous territories.

³Presentation of the Directorate General of Forestry Planning and Environmental Management, Ministry of Environment and Forestry - 2021, "Forests and Deforestation in Indonesia 2019-2020," March 2021.

Figure 5. Natural Forests Deforestation of 2019-2020 in Concessions and Forest Protection Areas* (Ha)



Source: KLHK Deforestation Data March 2021; IUPHHK HA, IUPHHK HT, IUPHHK RE, PIPPIB, PIAPS (KLHK Geoportal accessed in 2019); Palm Oil Permits (Various Sources); Oil and Gas, Mineral and Coal (DEN accessed in 2019), Indigenous Territories (BRWA via Sawit Watch, 2018)

**ignoring overlapping permits and spatial allocations*

High rate of deforestation of natural forests occurred in overlapping areas of PIPPIB, permits/concessions, and PIAPS

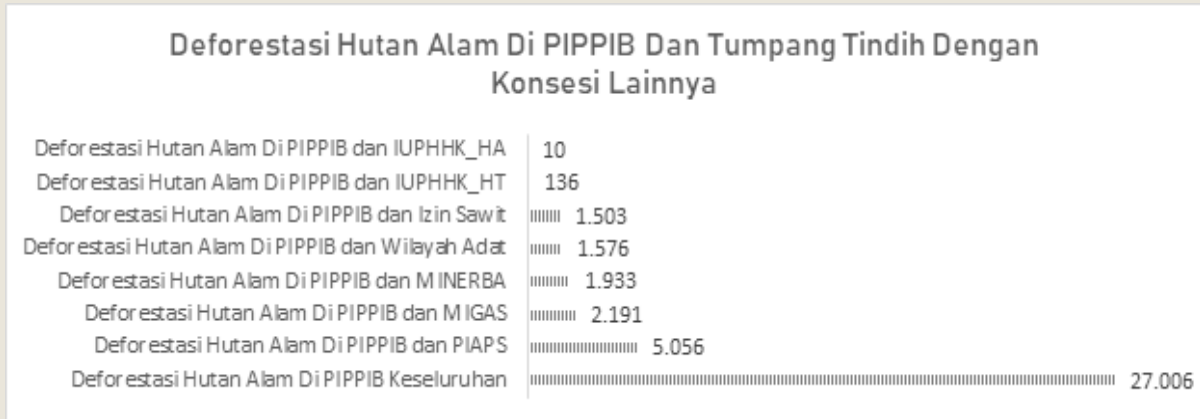
The relatively high level of natural forests deforestation in PIPPIB is also influenced by massive overlaps between PIPPIB and permit/concession areas, as well as PIAPS.

The largest deforestation of natural forests in the PIPPIB areas took place in locations that overlap with oil and gas concessions, followed by those overlapping with mineral and coal mining, and palm oil plantation permits

The relatively high level of natural forests deforestation in PIPPIB is also influenced by massive overlaps between PIPPIB and permit/concession areas, as well as PIAPS.

(see Figure 6). Meanwhile, PIPPIB areas that overlap with IUPHHK-HA (logging concessions) and IUPHHK-HT (timber plantation concessions) are relatively small, namely 10 and 136 hectares, respectively. From these data, it can be concluded that concession activities in PIPPIB contributed to high deforestation of natural forests in mentioned areas. This indicates a dire need to resolve disputes over licensing and spatial allocation as well as for a more comprehensive and measurable monitoring approach from the government on activities with high deforestation potentials within the PIPPIB.

Figure 6. Deforestation of Natural Forests in PIPPIB Overlapping with Other Concessions (Ha)



Source: KLHK Deforestation Data March 2021; IUPHHK HA, IUPHHK HT, IUPHHK RE, PIPPIB, PIAPS (KLHK Geoportal accessed in 2019); Palm Oil Permits (Various Sources); Oil and Gas, Mineral and Coal (DEN accessed in 2019), Indigenous Territories (BRWA via Sawit Watch, 2018)

Previous Madani studies have also shown that there are potentials to reduce deforestation by accelerating the issuance of social forestry permits in PIAPS areas, which pose moderate to high deforestation risks index. Granting tenure rights to communities accompanied by strong assistance may be able to reduce the rate of deforestation. This should be of concern because the deforestation rate of natural forests in the overlapping areas between PIPPIB and PIAPS is the largest compared to other categories, reaching more than 5,000 hectares.

Deforestation of natural forests in peat ecosystems is considerably large, the highest occurred in protected peatlands

Halting the loss of natural forests on peatlands is critical to achieving climate commitments and preventing forests and land fires because deforested and drained peatlands are more susceptible to fire. Deforestation of natural forests that occurred in peat ecosystems are quite large, namely around 20 thousand hectares. Ironically, deforestation of natural forests in protected peat ecosystems are higher than that of cultivation peat ecosystems, namely 11.6 thousand hectares compared to 8.4 thousand hectares.

Previous Madani studies have also shown that there are potentials to reduce deforestation by accelerating the issuance of social forestry permits in PIAPS areas, which pose moderate to high deforestation risks index.

Deforestation of natural forests also took place in PIAPS and Indigenous Territories

Deforestation of natural forests also occurred in the indicative social forestry or PIAPS areas, which amounted to 9,944 hectares. Based on Madani studies (2019), there are around 1.37 million hectares of PIAPS areas with moderate and high-risk deforestation index.⁴ There needs to be an acceleration in granting social forestry permits in areas at risk of deforestation, accompanied by strong assistance so that natural forests would no longer be encroached on, but can be managed by the communities in sustainable manners.

“Halting the loss of natural forests on peatlands is critical to achieving climate commitments and preventing forests and land fires because deforested and drained peatlands are more susceptible to fire.

Apart from PIAPS areas, deforestation of natural forests was also recorded in Indigenous Territories of 6.4 thousand hectares. However, due to the high overlap of Indigenous Territories with other permits and spatial allocations as well as the lack of formal recognition of Indigenous Territories from the government, it is very difficult to pinpoint parties responsible for deforestation of natural forests that took place in these areas.

⁴ Yayasan Madani Berkelanjutan. 2019. *Contribution of Social Forestry to Achieving Indonesia's NDC Targets (Case Study of KPH Bukit Barisan)*. Yayasan Madani Berkelanjutan: Jakarta

1.4 DEFORESTATION OF NATURAL FORESTS IN PERMITTED AND

The largest deforestation of natural forests in 2019-2020 took place in palm oil plantation permits, with the most in Business Use Rights/HGUs.

As shown in Figure 7, in the 2019-2020 period, the largest deforestation of natural forests among 6 types of permits / concessions took place in palm oil plantations permits (19.94 thousand hectares).

Based on the types of licenses recorded, the highest deforestation of natural forests occurred in the HGU (Business Use Rights/*Hak Guna Usaha*) areas which covered 6,650 hectares. The second largest natural forests deforestation occurred in location permits (Ilok), namely 3,283 hectares – which means illegal because their permits were not yet definitive. The third largest occurred in Plantation Business Permits (IUPs) of 2,555 hectares. Unfortunately, so much deforestation of natural forests occurred in unidentified types of palm oil plantation permits, namely 7,449 hectares.

Figure 7. Deforestation of Natural Forests of 2019-2020 in Palm Oil Plantation Permits by Types of Permits (Ha)



Source: KLHK Deforestation Data March 2021; Palm Oil Licenses (Various Sources)

Deforestasi hutan alam di izin sawit terbanyak di APL, namun 10,5% masih terjadi di kawasan hutan

Figure 8. Deforestation of Natural Forests of 2019-2020 in Palm Oil Plantation permits based on Forest Zone



Source: KLHK Deforestation Data March 2021; The Forest Zone (KLHK Geoportal accessed in 2019); Palm Licenses (Various Sources)

Deforestation of natural forests that occurred in palm oil plantation permits took place mostly in APL (Other Use Areas) which covered up to 89.5%. This shows that deforestation of natural forests for palm plantations development occurred in forested areas that had since the beginning had APL status or which had been released from the Forest Zone. However, about 10.5% or 2,093 hectares occurred in areas still under the Forest Zone status, which can be pointed out to be illegal.

Natural forests deforestation still occurred in palm oil permits which are ISPO, RSPO and NDPE certified/covered, but the figures are much smaller compared to areas which are not certified and have NDPE commitments

Approximately 18.4% of natural forests deforestation in palm oil permits occurred in areas that have obtained Indonesian Sustainable Palm Oil (ISPO) and the Roundtable on Sustainable Palm Oil (RSPO) certificates, or which have announced No Peat, No Deforestation, No Exploitation (NDPE) commitment. Deforestation of natural forests in ISPO-certified palm oil permit areas were recorded at 604 hectares, RSPO at 2,536 hectares, and those with NDPE commitments at 782 hectares.

However, most of the deforestation of natural forests in palm oil permits took place in areas that do not have ISPO and RSPO certificates and do not have NDPE commitments, which covered 16,285 hectares or 81.6% of the total deforestation of natural forests palm oil plantation permits.

97% of natural forests deforestation in palm oil plantation permits occurred in non-ISPO certified areas

Of the 19,938 hectares natural forests deforestation that occurred in palm oil permit areas, around 19,334 hectares (97%) were recorded in permitted areas that did not have ISPO certificates. On the other hand, natural forests deforestation still occurred of 604 hectares in permits that have received ISPO certification. This occurred mostly in the provinces of North Sulawesi (201 hectares), Central Sulawesi (101 hectares), North Kalimantan (100 hectares), West Kalimantan (93 hectares), Riau (55 hectares), and Central Kalimantan (53 hectares).

87.3% natural forests deforestation in palm oil plantation permits occurred in non-RSPO certified areas

Of 19,938 hectares of natural forests deforestation that occurred in palm oil permits, around 17,401 hectares (87.3%) were recorded in permit areas that did not have RSPO certification. On the other hand, deforestation of natural forests still occurred in permitted areas that have received RSPO certification covering an area of 2,537 hectares; the largest in West Kalimantan (1,885 hectares), followed by Central Kalimantan (639 hectares).

96% of natural forests deforestation in palm oil plantation permits took place outside groups of companies that have declared NDPE

Of the 19,938 hectares of natural forests deforestation that occurred in palm oil permits, around 19,156 hectares (96%) were recorded in company groups that had not declared an NPDE (not covering the supply chain). On the other hand, deforestation of natural forests still occurred in the areas of companies who have declared NDPE of 782 hectares, the largest in Central Sulawesi (326 hectares) and West Kalimantan (303 hectares).

The above data shows that natural forests deforestation is still taking place even in palm oil permits which have obtained ISPO and RSPO certifications and those which have NDPE commitments. However, the figure is indeed much smaller than that in palm oil plantations permits with no ISPO, RSPO, or NDPE commitments at all.

The lowest deforestation of natural forests is recorded in palm oil permits that were ISPO certified, RSPO certified, and had NDPE commitments together, of only 8 hectares. The second lowest is recorded in those that were RSPO certified and have NDPE commitments but did not have ISPO certificate, which is 40 hectares. The third lowest was in palm oil plantations that were ISPO and RSPO certified but did not have NDPE commitments, which is 57 hectares. The fourth lowest is recorded in those that are ISPO certified and have NDPE commitments but did not have RSPO certificate, which is 157 hectares.

Palm oil plantations that were only ISPO certified –without RSPO certification or NDPE commitments– recorded the fifth lowest natural forest deforestation of 382 hectares. Those with only NDPE commitments –without ISPO or RSPO certification– recorded higher deforestation of natural forests, which covered 577 hectares. Those with only RSPO certificate –without ISPO certification and NDPE commitments– recorded an even greater natural forests deforestation, which is 2,432 hectares. Finally, the highest deforestation of natural forests took place in palm oil plantation permits that did not have all three, covering 16,285 hectares or 81.6% of the total natural forests deforestation in palm oil plantation permits.

Apart from palm oil plantation permits, the highest deforestation of natural forests in 2019-2020 occurred in oil and gas concessions

Apart from the palm oil plantation permits, the highest deforestation of natural forests occurred in oil and gas concessions (12.3 thousand hectares), followed by logging concessions or IUPHHK-HA (10.4 thousand hectares), mineral and coal mining concessions (8.9 thousand hectares), timber plantation concessions or IUPHHK HT (8.7 thousand hectares), and the smallest in the ecosystem restoration concessions or IUPHHK-RE (269 hectares).

Deforestation of natural forests in oil and gas concessions is massive, but it is difficult to determine whether they were cleared for oil and gas extraction purposes or because there were overlapping permits or tenurial conflicts on them. This is because oil and gas extractions required relatively smaller surface areas than –for example– extractions of mineral and coal mines, where deforestation of natural forests were also found quite high, which ranked 4th.

“Deforestation of natural forests in oil and gas concessions is massive”

Deforestation of natural forests in the IUPHHK-HA (logging) areas (ranked 3rd) may indicate that many permit owners have not been compliant with the principles of sustainable production forest management that do not result in deforestation, but it could also indicate encroachment. Similarly, deforestation of natural forests in IUPHHK-HT (timber plantation) areas could reflect planned deforestation for industrial timber plantation (plantation forest) development as well as unplanned deforestation such as encroachment.

Massive overlapping permits and tenure conflicts makes it difficult to pinpoint de facto deforesters of natural forests. All that could be done was to identify permit or de jure owners that may be responsible for the deforestation of natural forests that occurred in their areas

1.5 COMPARISON BETWEEN GOVERNMENT AND GLOBAL FOREST WATCH DEFORESTATION

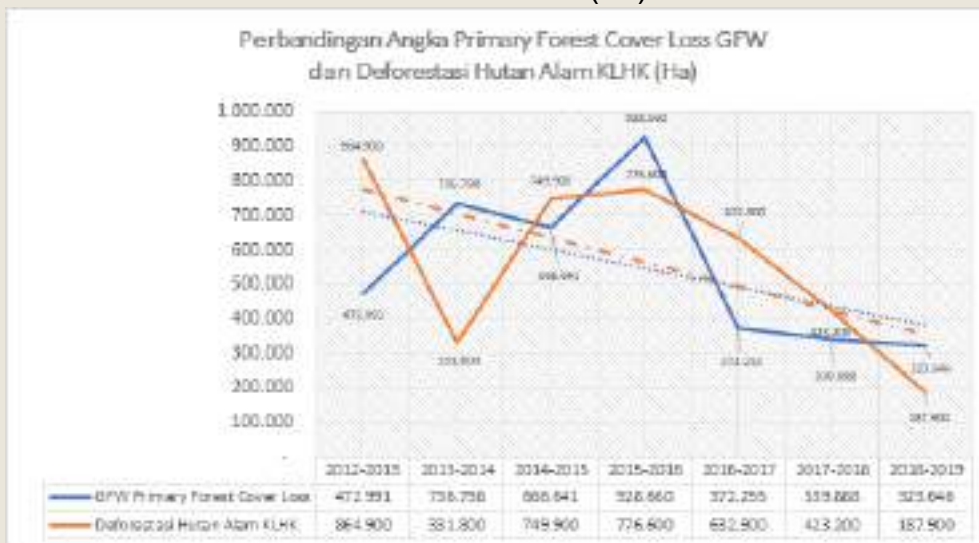
Both KLHK and GFW data show a downward trend in deforestation of natural forests

In March 2021, Global Forest Watch recorded a decrease of Indonesia's primary forests loss for 4 consecutive years. For the first time, Indonesia is out of the list of top 3 countries contributing to the highest loss of primary forest in the world.

First, it needs to be underlined that the primary forests data of GFW is almost similar with the natural forests data of the government with a correlation of 90% and low statistical error.⁵ The graph below compares Indonesia's natural forests deforestation data with the primary forest loss data from GFW from 2012-2013 to 2018-2019 (7 periods).

⁵ Look at Arief Wijaya and Hidayah Hamzah, "Global Forest Watch Technical Blog: Definition and Methodology of 2019 Forest Loss Data in Indonesia," 26th June, 2020, in <https://wri-indonesia.org/en/blog/global-forest-watch-technical-blog-definition-and-methodology-2019-forest-loss-data-indonesia>, accessed 22nd April 2021.

Figure 9. Comparison of GFW Primary Forest Cover Loss and Deforestation of Natural Forests of KLHK (Ha)



Source: KLHK Deforestation Data March 2021; GFW Data⁶; Indonesia Deforestation Book 2012-2013 to 2018-2019

Although the figures per year are different, Figure 9 above shows that there is a similar downward trend between the primary forest cover loss data according to GFW and the loss of Indonesia's natural forests according to the Ministry of Environment and Forestry in the period between 2012 and 2019. Of the 7 periods, the primary forest cover loss figure from GFW was lower than KLHK's deforestation of natural forest in 4 periods- 2012-2013, 2014-2015, 2016-2017, and 2017-2018 and higher in 3 periods -2013-2014, 2015-2016, and 2018-2019. Accumulatively, the total forest loss based on GFW and KLHK data is almost similar, namely 3,840,879 hectares (GFW) and 3,967,200 hectares (KLHK); with a difference of 126,321 hectares where GFW's figure is lower than KLHK.

In the 2019-2020 period, KLHK released natural forests deforestation figure of 116,911 hectares under the monitoring period of July 2019 to June 2020. Meanwhile, GFW released primary forest cover loss figure in 2019 of 324,000 hectares and 270,000 hectares in 2020. If an average is taken, the primary forest cover loss based on GFW data for the 2019-2020 period is 297,000 hectares, which is twice higher than the deforestation rate of natural forests according to the Ministry of Environment and Forestry.

In the Indonesian Deforestation Book, the Ministry of Environment and Forestry identifies several factors contributing to deforestation, namely the conversion of the Forest Zone for development purposes in other sectors, for example for plantations and transmigrations; unsustainable forest management; timber thefts or illegal loggings;

⁶Look at Arief Wijaya and Hidayah Hamzah, "Global Forest Watch Technical Blog: Definition and Methodology of 2019 Forest Loss Data in Indonesia," 26th June, in <https://wri-indonesia.org/en/blog/global-forest-watch-technical-blog-definition-and-methodology-2019-forest-loss-data-indonesia>, accessed 22nd April 2021.

forest utilization activities, misuse of the Forest Zone, changes in the Forest Zone designation and usage of other areas legally; mining, encroachment and land occupation (illegal land); forest fires; as well as natural disasters. On the other hand, suboptimal reforestation and reforestation activities have resulted in the expansion of degraded lands.⁷

On the other hand, the government mentioned nine measures that contributed to reducing Indonesia's deforestation in the 2019-2020 period, which are as follows:⁸

- Implementation of the Presidential Instruction to Stop the Granting of New Permits and Improve Governance of Primary Natural Forests and Peatlands
- Forest and Land Fire Control
- Peatlands Damage Control
- Climate Change Control
- Restrictions on changes in the Forest Zone Allocation for the non-forestry sector (HPK)
- Resolution of Land Tenure Conflicts in the Forest Zone (PPTKH / TORA)
- Sustainable Forest Management
- Social Forestry, and
- Forest and Land Rehabilitation.

The government mentioned nine measures that contributed to reducing Indonesia's deforestation in the 2019-2020 period

The government of Indonesia does not mention the palm moratorium policy as a measure to curb natural forests deforestation. Meanwhile, WRI Indonesia noted several factors that contributed to reducing Indonesia's deforestation in 2019-2020, namely the implementation of palm moratorium policy (which will end in September 2021), permit moratorium on primary natural forests and peatlands, implementation of social forestry and agrarian reforms, peatlands restoration, and subnational government policies to reduce deforestation. WRI also noted that the decline in deforestation during the 2019-2020 period was also influenced by commodity market conditions (weakening commodity prices) and wet weather conditions in 2020.⁹ According to WRI, the recurring increase in CPO prices and dry weather conditions could reverse the downward trend in

⁷ Ministry of Environment and Forestry. 2020. Indonesian Deforestation 2018-2019. Directorate of Inventory and Monitoring of Forest Resources. Directorate General of Forestry Planning and Environmental Management. Ministry of Environment and Forestry: Jakarta.

⁸ Press Release of the Ministry of Environment and Forestry, "Indonesia's Deforestation Rate is Down by 75.03%" accessed from <http://ppid.menlhk.go.id/berita/siaran-pers/5848/laju-deforestasi-indonesia-turun-7503> on 26th April 2021.

⁹ Mikaela Weisse (WRI) and Elizabeth Goldman, "Primary Rainforest Destruction Increased 12% from 2019 to 2020," accessed from <https://wri-indonesia.org/en/blog/primary-rainforest-destruction-increased-12-2019-2020> on 26th April 2021.

deforestation if the government does not tighten control measures, including by extending the palm moratorium policy.¹⁰

¹⁰ Ibid.

CINTA SEJATI
DIBAWA MATI

AKU PENCINTA
ALAM

PART
TWO

UNPROTECTED NATURAL FORESTS VULNERABLE TO DEFORESTATION

Government data states that in 2020, Indonesia has forest cover of 95,561,900 hectares. Of those vastness, Indonesia's natural forests reach 90,112,200 hectares.¹² From government data that could be analyzed publicly, Madani found that in 2019, Indonesia's natural forests were only 88,465,708 hectares; or that there is a gap of around 1.65 million hectares with the latest statistical data released by the government. The analysis below is based on data which can be analyzed publicly, which cover an area of 88.47 million hectares in 2019.

¹² Presentation of the Directorate General of Forestry Planning and Environmental Management, Ministry of Environment and Forestry - 2021, "Forests and Deforestation in Indonesia 2019-2020," March 2021.

2.1 NATURAL FORESTS BASED ON FUNCTIONS OF THE FOREST ZONE

The Job Creation Law expands categories of the Forest Zone' functions that can be released

Based on the construction of Indonesia's law, natural forests located in Protected Forest and Conservation Forests have the strongest protection. In 2019, around 45.9% or 40,639,973 hectares of Indonesia's natural forests were under Protection and Conservation Forests. However, Indonesia's largest natural forests are located in production functions (Limited, Permanent Production Forest, and Convertible Production Forest), which is around 46.5% or 41,103,070 hectares. Meanwhile, 7.6% or 6,722,665 hectares of Indonesia's natural forests are in Other Use Areas which are not protected by their status as the Forest Zone and are easier to convert.

“The natural forests that are most legally threatened are those in Other Use Area (APL) and Convertible Production Forests (HPK)

The natural forests that are most legally threatened are those in Other Use Area (APL) and Convertible Production Forests (HPK) - covering 6,722,665 and 5,732,411 hectares, respectively. Natural forests under HPK are allocated for non-forestry development purposes through the certified Forest Zone release mechanism. After the passing of Law No. 11 of 2020 on Job Creation, Permanent Production Forest –which now also includes Permanent Production Forest and Limited Production Forest– could also be released¹³ among others for national strategic projects, national economic recovery, land acquisition for food security (food estate), and business activities which have previously been built and had permits in the Forest Zone before the enactment of the Job Creation Law.¹⁴

¹³ Article 1 Point 29 Government Regulation No. 23 of 2021 about Forestry Management defines the Release of the forest zone as changes in the designation of Conversion Production The forest zone and / or Permanent Production Forests to non-the forest zone.

¹⁴ Article 58 paragraph 4 Government Regulation No. 23 of 2021 about the Implementation of Forestry.

Meanwhile, in relation to natural forests in APL –based on the operational rules of the Job Creation Law– Regional Governments are given the authorities to regulate forest cover outside the certified Forest Zone to optimize environmental, social, economic, and cultural benefits.¹⁵

1.7 million hectares of natural forests remain in areas released from the Forest Zone for plantations and transmigration.

Areas that have been released from the Forest Zone for transmigration and plantations still have many natural forests with a total of around 1.7 million hectares (1,698,566 hectares). Of that amount, the majority was released for plantations, amounting to 1,501,733 hectares, while areas for transmigration only covered 196,833 hectares.

Government Regulation No. 23/2021 states that the Minister of Environment and Forestry conducts evaluation within 3 years on areas that have been released from the Forest Zone in coordination with the Minister of Agrarian Affairs and Spatial Planning and the Minister of Agriculture. Based on this evaluation, if there are areas where land rights have not been issued, with no business activities and that still have forest cover, and business licenses in the plantation sector have been revoked by authorized officials, these areas are to be re-assigned by the Minister of Environment and Forestry as the Forest Zone in accordance with statutory provisions.¹⁶

¹⁵ Article 33 Amendments to Government Regulation No. 44 of 2004 about Forestry Planning.

¹⁶ Article 69 paragraph (3) and (4) Government Regulation No. 23 of 2021 concerning the Implementation of Forestry.

2.2 NATURAL FORESTS WITHIN PERMIT AND CONCESSION AREAS

3.58 million hectares of natural forests are located within palm oil permits

The vastness of natural forests in palm oil permits is quite significant. Based on 2019 land cover, Madani noted that 3,577,496 hectares of natural forests were located in palm oil permits.

Of that amount, around 1,427,467 hectares were recorded as coming from released Forest Zone, which were objects of licensing evaluation in the palm moratorium policy or Presidential Instruction No. 8 of 2018 on the Postponement and Evaluation of Palm Oil Plantation Permits and Increasing Productivity of Palm Oil Plantations.

The implementation of the palm oil moratorium gives hope that natural forests remaining within palm oil permits will be evaluated and returned as the Forest Zone. However, towards the end of this Presidential Instruction period (September 2021), there still has been no transparency regarding evaluation results of palm oil plantation permits and the extent of natural forests to be returned as the Forest Zone.

Natural forests within palm oil licenses were increasingly threatened after the Job Creation Law was passed because there was a provision that within two years of being granted land title status, the entire palm oil plantation areas must be developed, or they must return areas that had not been cultivated to the State.¹⁷ This will of course trigger palm permit holders to develop, utilize, and fully exploit areas of lands been granted with land rights status. In addition, already developed palm oil plantation areas within the Forest Zone will also be pardoned after paying for administrative fines.¹⁸

More than 1 million hectares of primary forests are located in palm oil permits, where the majority of which came from released Forest Zone

Of the 3.58 million hectares of natural forests under palm oil licenses, more than 1 million hectares (1,009,108 hectares) are recorded as primary natural forests. Most primary

¹⁷ Article 16 paragraph 1 of Law No. 39 of 2014 about Plantation as amended based on the Job Creation Law

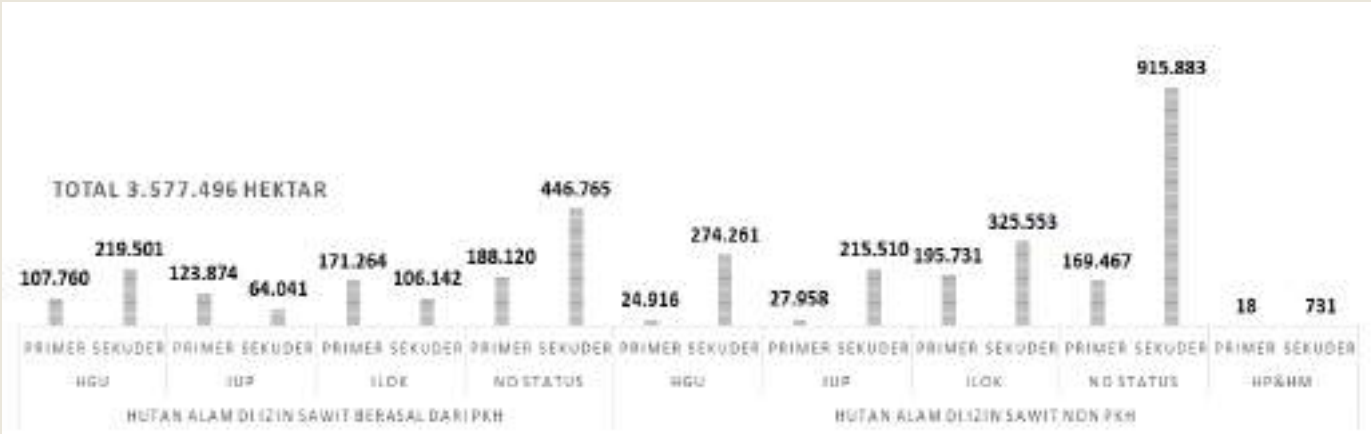
¹⁸ Article 95 Government Regulation No. 23 of 2021 about the Implementation of Forestry.

natural forests in palm oil permits came from released Forest Zone which covered around 591 thousand hectares, while those that did not originate from released Forest Zone totaled at 418 thousand hectares.

However, most of natural forests in palm oil permits are secondary natural forests, which covered 2.57 million hectares. Most of those did not come from released Forest Zone (1.73 million hectares) while 836.5 thousand hectares did.

The Forest Zone released for palm oil plantations should not have natural forests. To achieve Indonesia's climate commitment, it is crucial to protect natural forests which are still located within palm oil permits through various policy innovations.

Figure 10. Natural Forests in Palm Oil Permits (Ha)



Source: Land cover 2019 (KLHK Geoportal accessed 2019); Palm Oil Permit (Various Sources)

Most of natural forests in palm oil licenses are found in Papua

About 1.4 million hectares of natural forests under palm licenses located in the Papua province, the largest in Indonesia. The second largest natural forests in palm oil permits are in the province of Central Kalimantan (518 thousand hectares), East Kalimantan (448.4 thousand hectares), West Papua (433.8 thousand hectares), and West Kalimantan (275.6 thousand hectares). Natural forests in palm oil permits in other provinces can be seen in the Figure below.

Figure 11. Natural Forests in Palm Oil Permits by Province (Ha)



Source: 2019 land cover (KLHK Geoportal accessed 2019); Administrative Boundary (RBI 2019); Palm Oil Permits (Various Sources)

Natural forests within unidentified type of palm oil permits are considerably large

Based on the types of permits and rights, natural forests within palm oil plantation location permits (Ilok) are quite large, almost 800 thousand hectares, while natural forests in plantation business permits (IUP) are around 431.4 thousand hectares. Meanwhile, natural forests in Business Use Rights or HGUs are recorded at only 626 thousand hectares. The figures in Ilok, HGU, and IUP could be even greater because around 1.72 million hectares of natural forests are located within palm oil permits or rights, which type have not been identified (see Figure 12).

On the other hand, the NDC Implementation Roadmap notes that natural forested areas within HGUs reached up to 1,443,312 hectares, half of which - 759,462 hectares - are within protected area.¹⁹

Figure 12. Natural Forest in Oil Palm Permits Based on Permits Status (Ha)



Source: 2019 land cover (KLHK Geoportal accessed 2019); Palm Oil Permit (Various Sources)

¹⁹ Ministry of Environment and Forestry et. al., "Roadmap for Implementation of Nationally Determined Contribution of Mitigation," p. 137.

3.2 million hectares of natural forests are found in industrial timber plantations permits

From 2018 land cover data, it was recorded that 3,205,856 hectares of natural forests were located in the Business License for the Utilization of Timber Forest Products-Plantation Forest (IUPHHK-HT). Other data in the NDC Implementation Roadmap records natural forests within the area are of 2,918,850 hectares, of which 1,494,482 hectares are categorized as protected directives.²⁰

Aside from natural forests still found within existing timber plantation permits, expansion of timber plantation permits still poses a threat to the remaining natural forests.

Expansion of industrial timber plantation in the Forest Zone is one of the government's priorities in the National Forestry Plan (RKTN) 2011-2030. Until 2030, its development is targeted to reach 10 million hectares. Assuming the allocation for a Net Plantable Area (NPA) is 65%, 20% for life-supporting plants, and 15% for protection; then areas required for the development of those plantations are ± 15.38 million hectares. Current utilization is recorded at 11.36 million hectares, so that areas needed until 2030 for permits expansion of industrial timber plantation reached up to 4.02 million hectares.²¹

The expansion of industrial timber plantation permits has increasingly threatened natural forests because in the Job Creation Law and implementing regulations for the forestry sector –Government Regulation 23/2021 concerning Forestry Management– there are no longer provisions which prioritize its development in unproductive Forest Zone.

Natural forests in IUPHHK-HA areas

Natural forests within logging concessions or IUPHHK-HA areas are very large, which covered 16,401,061 hectares in 2019. They are mainly experiencing threats of degradation but are not spared from threats of deforestation due to non-compliance of permit owners with the provisions of selective logging or because of encroachment. The National Forestry Plan (RKTN) 2011-2030 does not mention the need for IUPHHK-HA expansion, so the government should no longer be granting logging permits.

“ The expansion of industrial timber plantation permits has increasingly threatened natural forests

²⁰ Ibid.

²¹ Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number P.41 / MenLHK / Setjen / Kum.1 / 7/2019 about 2011-2030 National Level Forestry Plan.

Natural forests in oil and gas and mineral and coal mining concessions

Natural forests within oil and gas concessions were recorded at 8,371,794 hectares in 2019 in addition to 7,820,638 hectares of natural forests located in mineral and coal mining concessions.

Much of natural forests within permit / concession areas are found in overlapping areas as shown in the following table.

Table 2. Distribution of Natural Forests in Overlapping Permit Areas

Distribution of Natural Forests			Oil and Gas		Outside Oil and Gas	
			Mineral and Coal	Outside Mineral and Coal	MINERBA	Mineral and Coal
IUPHHK HT	IUPHHK HA	IUPHHK RE	0	0	0	0
		Outside IUPHHK RE	0	26	0	6.553
	Outside IUPHHK HA	IUPHHK RE	0	0	0	1
		Outside IUPHHK RE	2.288	371.381	143.698	2.403.446
Outside IUPHHK HT	IUPHHK HA	IUPHHK RE	0	0	0	0
		Outside IUPHHK RE	242	1.599.478	584.699	14.210.062
	Outside IUPHHK HA	IUPHHK RE	17.122	88.684	4.136	354.656
		Outside IUPHHK RE	331.078	5.961.494	6.737.374	0

Source: Land Cover, IUPHHK HA, IUPHHK HT, IUPHHK RE, (KLHK Geoportal accessed 2019); Oil and Gas, Mineral and Coal (DEN accessed 2019)

2.3 NATURAL FORESTS WHICH MUST BE PROTECTED BY PIPPIB

1.39 million hectares of primary forests outside concession and PIAPS need to immediately be included in PIPPIB; More than 8 million hectares of secondary forests need to be protected by strengthening the policy to stop new permits issuance

Natural forests within the Indicative Map for the Termination of the Granting of New Permits (PIPPIB) are protected from new permits issuance, which could lead to deforestation and degradation. Currently, PIPPIB covers an area of around 66.2 million hectares.

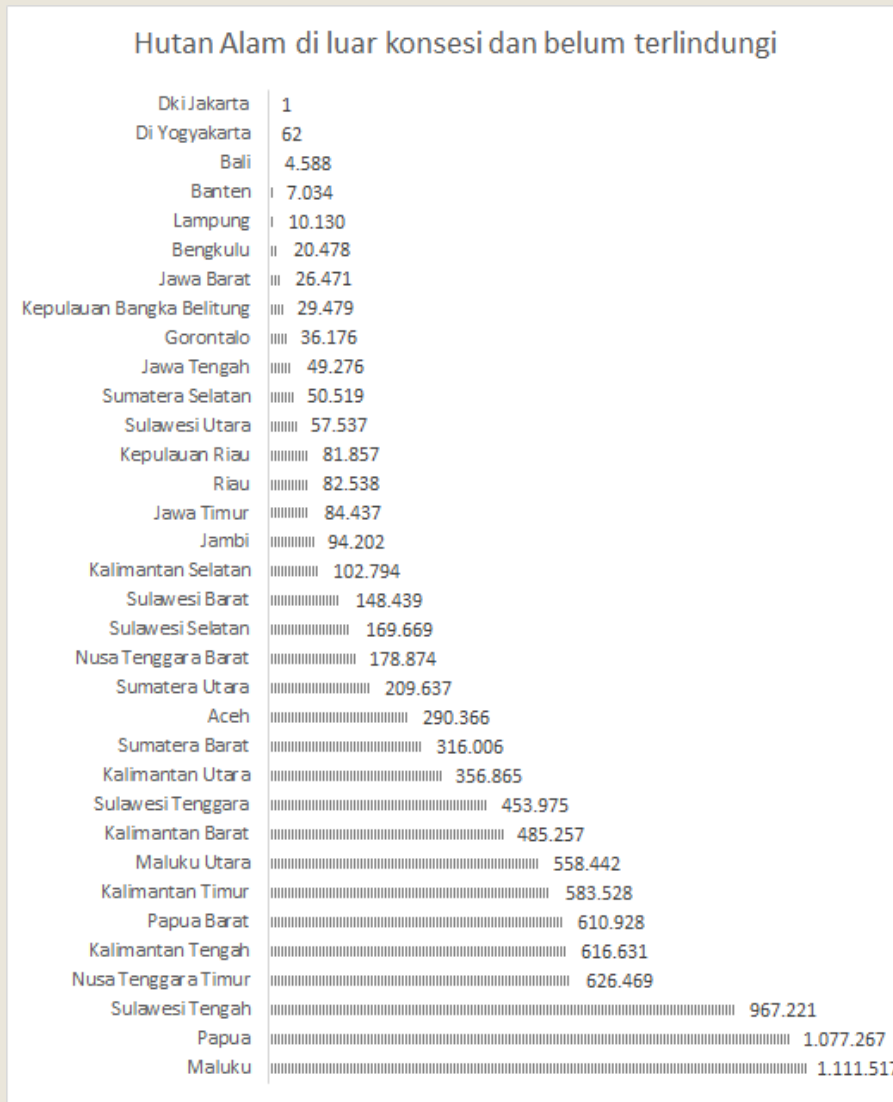
However, there are still many natural forests unprotected by PIPPIB. Based on Madani studies, from 2019 natural forests data, there are 9,479,987 hectares of natural forests unprotected by PIPPIB, which need to be protected immediately to avoid deforestation and degradation. Those natural forests are located outside the 6 types of permits (IUPHHK-HT, IUPHHK-HA, IUPHHK-RE, oil and gas concessions, mineral and coal concessions, and palm oil permits) and outside areas allocated for social forestry (PIAPS Revision 4).

Of those 9.48 million hectares, 1.39 million hectares are recorded as primary natural forests, which must immediately be included in PIPPIB. Meanwhile, more than 8 million hectares are recorded as secondary natural forests. It is necessary to strengthen the policy to stop new permits issuance so that they would cover secondary natural forests found outside permitted areas and the allocated areas for social forestry.

The largest natural forests that need to be protected immediately are located in Maluku, Papua, and Central Sulawesi

The largest natural forests that need to be protected immediately by PIPPIB are located in Maluku – covering areas of 1,111,517 hectares, followed by Papua with of 1,077,267 hectares, and Central Sulawesi with of 967,221 hectares. Further details can be seen in Figure 13 below.

Figure 13. has Natural Forests Outside Concessions (Ha)



Source: 2019 land cover, IUPHHK HA, IUPHHK HT, IUPHHK RE, PIPPIB, PIAPS (KLHK Geoportal accessed 2019); Palm Oil Permits (Various Sources); Oil and Gas, Mineral and Coal (DEN accessed 2019).

PART THREE



**THE MEANING OF
INDONESIA'S NATURAL
FORESTS DEFORESTATION
IN ACHIEVING THE
CLIMATE COMMITMENT
AND PARIS AGREEMENT**

3.1 DECLINING DEFORESTATION AND THE NDC TARGET

Indonesia has succeeded in reducing natural forests deforestation below the NDC deforestation limits

Protecting the remaining natural forests should rank first in the hierarchy of climate change mitigation actions because of their importance in safeguarding carbon stocks, biodiversity, and other environmental services. Studies showed that intact natural forests rich in biodiversity not only would store more carbon, but are also more stable in maintaining carbon stocks.²²

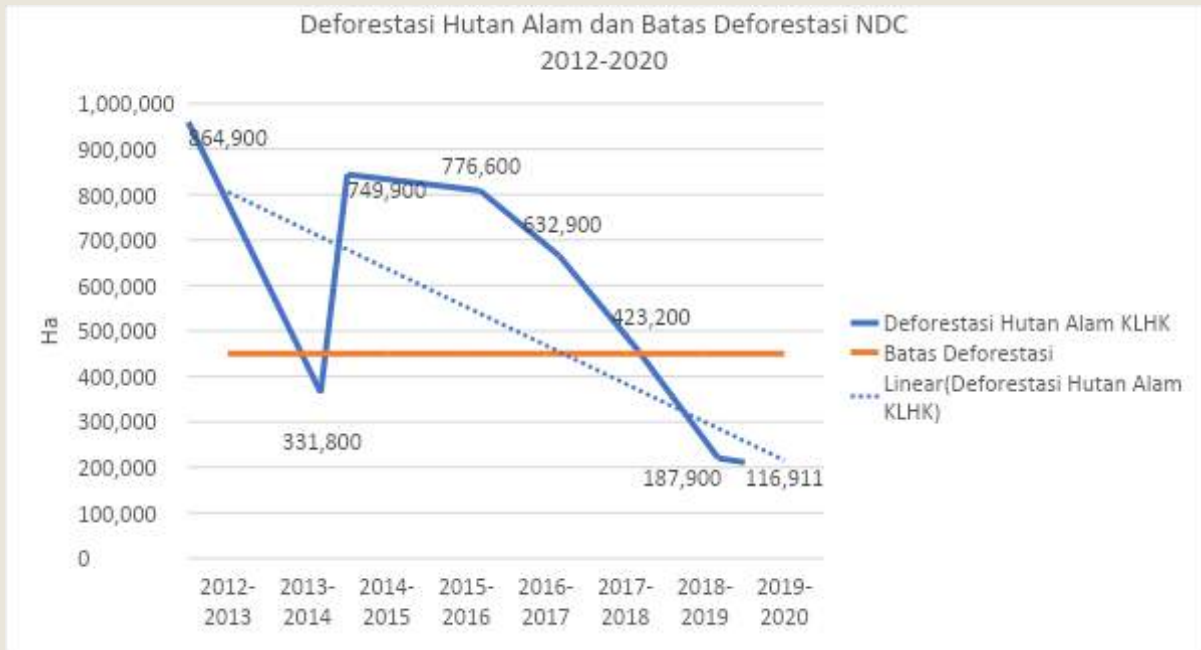
In the First NDC (2016), Indonesia determined that to achieve the climate commitment contained in the NDC in 2030, deforestation must not exceed 450,000 hectares in the 2013-2020 period and 325,000 hectares in the 2020-2030 period.²³ In the NDC context as stated in the NDC Implementation Roadmap, the deforestation meant here refers to the changes of natural forests to non-natural forests.

The graph below illustrates the rate of deforestation of Indonesia's natural forests from 2012-2013 to 2019-2020 (blue line) and its relative position against the deforestation limit listed in the NDC (orange line).

²² Dooley, K et al. 2018. Missing Pathways to 1.5 ° C: The role of the land sector in ambitious climate action. Climate Land Ambition and Rights Alliance, downloaded from climatelandambitionrightsalliance.org/report

²³ First NDC Indonesia, 2016.

Figure 14. Natural Forests Deforestation and NDC Deforestation Limit 2012-2020 (Ha)



Source: KLHK Deforestation Data and First NDC

From the 7 periods of natural forests deforestation as shown in Figure 14 above, the government of Indonesia has succeeded in reducing deforestation of natural forests to be below the 450,000 / year (deforestation limit) in 4 periods of 2013-2014, 2017-2018, 2018-2019, and 2019-2020. In the 2018-2019 and 2019-2020 periods, Indonesia even succeeded in reducing deforestation of natural forests to remain under the 325,000 / year deforestation limit, which is the deforestation limit for the 2020-2030 period. Therefore, the government of Indonesia actually still has room to increase its climate ambition by lowering the deforestation quota in this decade.

3.2 DEFORESTATION IN THE LONG-TERM STRATEGY 2050

How low can Indonesia's deforestation be in the Long-Term Strategy 2050?

In the Long-Term Vision 2050 LTS-LCCR presented by the Ministry of Environment and Forestry at the LTS-LCCR public consultation in March 2021, under the Low Carbon Compatible with Paris Agreement (LCCP) scenario or the most ambitious scenario, Indonesia targets to reach the peak of its greenhouse gas emissions with a net sink in the forest and land use sector (FOLU) in 2030 and is moving towards net zero by 2070.

It is also stated that within the LCCP scenario, Indonesia must reduce emissions in the energy sector to almost zero and increase carbon sequestration or carbon removal from the forest and land sectors. To achieve this, a transformation in land-based energy and food systems is needed. This scenario also has the potential to create trade-offs between various targets that require land, including targets for energy security, food security, conservation, biodiversity, and deforestation prevention.

Some of the figures in the most ambitious scenario are shown in Figure 15 below.

Figure 15. LCCP Scenario in the FOLU Sector: Forestry



Source: KLHK Presentation (2021)

Deforestation in the LCCP scenario is set to decrease, but not yet to zero

Even in the most ambitious Long-Term Strategy scenario to achieve climate-resilient low-carbon development, Indonesia's deforestation quota has not been yet set to reach zero. In the LCCP scenario, the deforestation rate in the 2010-2030 period is stated as 241 thousand hectares / year or a total of 5,061,000 hectares in the 2010-2030 period. The actual deforestation rate for natural forests in the 2010-2019 period reached 4,909,498 hectares; so that to remain within the LCCP deforestation quota limit, this decade (2020-2030) the remaining quota for Indonesia's natural forests deforestation is only 151,502 thousand hectares or around 13,7 thousand hectares per year.

Meanwhile, the LCCP scenario targets a deforestation rate of 99 thousand hectares/year in the 2031-2050 period, which means that the quota to deforest is quite large, around 1,980,000 hectares in this period.

Overall, from 2010-2050, this most ambitious scenario still allows deforestation of 7,041,000 hectares. If it is reduced by deforestation of natural forests in the 2010-2019 period, the remaining quota for Indonesia's deforestation in the 2021-2050 period remains around 2,131,502 hectares or around 71,050 hectares per year. Indonesia has succeeded in reducing natural forests deforestation by up to 116,911 hectares in 2019-2020. To remain in line with the LCCP scenario, Indonesia must further reduce natural forests deforestation so that it does not exceed 71 thousand hectares per year.

Nevertheless, even the most ambitious scenario still allows for significant natural forests deforestation until 2050 and does not yet reflect the target of ending natural forests

deforestation by 2030 as stated in the New York Declaration on Forest (NYDF) endorsed by the government of Indonesian on 23 September 2014.²⁴

Table 3. Deforestation Quota in LCCP 2010-2050 (Ha)

2010-2030 Period	LCCP Deforestation Quota	2010-2030 Period	Actual Natural Forests Deforestation	2031-2050 Period	LCCP Deforestation Quota	2031-2050 Period	Actual Natural Forests Deforestation
2010	241,000	2010-2011	196,750 ²⁵	2031	99,000	2031-2032	
2011	241,000	2011-2012	628,866	2032	99,000	2032-2033	
2012	241,000	2012-2013	864,842	2033	99,000	2033-2034	
2013	241,000	2013-2014	331,735	2034	99,000	2034-2035	
2014	241,000	2014-2015	749,910	2035	99,000	2035-2036	
2015	241,000	2015-2016	776,546	2036	99,000	2036-2037	
2016	241,000	2016-2017	632,878	2037	99,000	2037-2038	
2017	241,000	2017-2018	423,215	2038	99,000	2038-2039	
2018	241,000	2018-2019	187,846	2039	99,000	2039-2040	
2019	241,000	2019-2020	116,911	2040	99,000	2040-2041	
2020	241,000	2020-2021		2041	99,000	2041-2042	
2021	241,000	2021-2022		2042	99,000	2042-2043	
2022	241,000	2022-2023		2043	99,000	2043-2044	
2023	241,000	2023-2024		2044	99,000	2044-2045	
2024	241,000	2024-2025		2045	99,000	2045-2046	
2025	241,000	2025-2026		2046	99,000	2046-2047	
2026	241,000	2026-2027		2047	99,000	2047-2048	
2027	241,000	2027-2028		2048	99,000	2048-2049	
2028	241,000	2028-2029		2049	99,000	2049-2050	
2029	241,000	2029-2030		2050	99,000		
2030	241,000	2030-2031					
Total	5,061,000		4,909,498		1,980,000		

Source: KLHK (processed)

²⁴ Look at <https://www.nydfglobalplatform.org/#goals> and <https://www.nydfglobalplatform.org/endorsers/>

²⁵ Angka ini didapatkan dari merata-ratakan angka deforestasi hutan alam 2009-2011 dengan total seluas 393,500 hektare untuk periode 2 tahun (2009/2010 dan 2010/2011).

Of course, Indonesia's climate commitment and the Long-Term Vision cannot be achieved only by reducing deforestation, but also by reducing degradation, preventing forest and peatland fires, rehabilitating forests and land, and restoring peatlands, which will be discussed in the subsequent Madani Insight editions.

CLOSING



The forestry and land sectors are the backbone of Indonesia's efforts in reducing emissions and achieving the NDC target. However, recurring deforestation caused by forests conversion and changing forests' functions to produce economic commodities and other development purposes have put Indonesia's forests in danger. Efforts to reduce deforestation rate over the years by the government through the Ministry of Environment and Forestry have brought significant results, where in 2019-2020 the reduction in the deforestation rate reached 75%. However, recent regulations and policies such as the Job Creation Law and its implementing regulations, National Strategic Projects, the National Economic Recovery Program, and the Food Estate Program pose risks to Indonesia's remaining natural forests and may increase the rate of deforestation, making it difficult for Indonesia to achieve its climate commitment and the Paris Agreement 1.5 degrees Celsius target. Therefore, this study recommends the following:

- **Protect and include natural forests outside PIPPIB, PIAPS and permits/concessions covering an area of 9.48 million hectares at risks of being deforested in the policy to stop new permits issuance, including 8 million hectares of secondary natural forests.** There are around 9.48 million hectares of natural forests in Indonesia not yet protected by PIPPIB, of which 1.39 million hectares of primary natural forests and 8 million hectares of secondary natural forests. The largest provinces with unprotected natural forests among others are Maluku, Papua, and Central Sulawesi with coverage of 1.11 million hectares, 1.07 million hectares, and 967 thousand hectares, respectively. Including unprotected natural forests into PIPPIB has the potentials to significantly reduce the rate of natural forests deforestation so that Indonesia would be able to increase emission reduction targets achievement in the FOLU sector.
- **Extend the palm moratorium policy, which contributes to protecting the remaining natural forests from expanding palm oil plantations.** Protecting the remaining natural forests in the Forest Zone and natural forests covering an area of 3.58 million hectares within palm oil permits through palm oil moratorium policy by strengthening the governance of palm oil plantations and evaluation of plantation permits and increasing productivity of existing lands will be able to reduce deforestation rate significantly, so it is important for the government to extend this policy.
- **Reduce deforestation for emission reductions in line with the Paris Agreement to under 71 thousand hectares per year.** For a progressive Updated NDC in the FOLU sector and to reach a net sink before 2030, Indonesia must adopt an emissions reduction scenario that is in line with the Paris Agreement. The scenario of reducing deforestation rate in the NDC target below 325,000 hectares per year until 2030 is not ambitious enough. If the deforestation

reduction target according to the LCPP is adopted and a deforestation quota is lower in the Updated NDC, Indonesia may be able to achieve carbon neutrality before 2070.

- **Issue regulations and policy innovations to protect natural forests located within permits/concessions threatened with deforestation and degradation.** There is a significant size of natural forests inside 5 types of permits / concessions including palm oil permits, timber plantation, logging, mineral and coal mining, and oil and gas concessions with the total coverage of 40.7 million hectares – by considering the overlaps between all 5 concessions. With the vastness of natural forests within these permits/concessions, including the overlaps, Indonesia's natural forests are increasingly becoming more vulnerable and are at great risk of being deforested and degraded. To protect natural forests already burdened with permits/concessions, supporting policies for forest conservation are urgently needed, such as using the ecosystem services index approach based on supporting and carrying capacities as protection directives. With this measure, natural forests within permit/concession areas which are at high risks of being deforested or degraded can be saved and protected.
- **Encourage palm oil plantation companies with ISPO and RSPO certifications as well as NDPE commitments not to clear natural forests for plantations' business development.** Natural forests within palm oil licenses that do not have ISPO and RSPO certificates and do not have NDPE commitments are very vulnerable to deforestation. Deforestation rate of around 16 thousand hectares or 81.6% of the total natural forests took place within palm oil permits without ISPO and RSPO certifications or NDPE commitment. On the other hand, deforestation still occurred even within palm oil permits that already have ISPO, RSPO, or NDPE certifications/commitment. Thus, there needs to be a strengthening of sustainability standards so that they would firmly prohibit natural forests deforestation for development of new palm plantations.
- **Immediately resolve licensing disputes and implement strong monitoring of activities with deforestation potentials within the PIPPIB.** The overlapping permits / concessions within PIPPIB have resulted in high rates of natural forests deforestation in PIPPIB areas, which covered 27 thousand hectares or 23%. Similarly, overlapping permits / concessions poses risks of accelerating deforestation and natural forests' loss. Therefore, it is necessary to immediately evaluate permits and resolve overlapping permits to reduce deforestation risk and tenure problems in overlapping areas.

- **Accelerate the issuance of social forestry permits in areas with moderate to high risks of deforestation, which covered areas of 1.37 million hectares and strengthen assistance for issued permits to prevent deforestation and land degradation.** Granting social forestry permits to indigenous and local communities living within and around forests, concrete implementation and strong assistance would encourage forest conservation, rehabilitation of forests and critical land, and avoid deforestation and forest and land fires. With one of the pillars of social forestry, which is area management, the communities involved are expected to be able to manage the Forest Zone which have been granted permits; among others through conservation efforts, utilization of environmental services and NTFPs, as well as monitoring and forests and land safeguarding.
- **Accelerate and expand the implementation of peatland restoration, both outside and inside the permit / concession areas.** Peatland restoration is one of the measures to suppress forest and land fires, which also cause natural forests deforestation. The government of Indonesia through the Peatland Restoration and Mangrove Rehabilitation Agency or BRGM has prioritized around 1.2 million hectares of peatland ecosystems to be restored in 2021 to 2024. However, this target only covers peatland ecosystems located outside concessions. For thorough restoration of peatland ecosystems, restoration of peatland within concessions must be prioritized and strengthened because the areas are significantly vast.
- **Carry out comprehensive monitoring and supervision of activities with potentials to cause natural forests deforestation and degradation in all provinces and districts, not only on the large islands.** Three of the 5 largest contributors to natural forests deforestation in 2019-2020 came from the eastern region of Indonesia, namely West Nusa Tenggara, Maluku, and East Nusa Tenggara; although the highest occurred in West Kalimantan province. It is only proper that attention and focus on natural forest monitoring be carried out comprehensively, with more attention on provinces experiencing an upward trend in the rate of natural forests deforestation such as in eastern Indonesia.

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Yayasan Madani Berkelanjutan is a non-profit institution that has bridged relationships between stakeholders (government, private sector, and civil society) to achieve innovative solutions related to forest and land governance.

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