



The context of REDD+ in Indonesia

Drivers, agents and institutions

2nd edition

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Photo by Ricky Martin/CIFOR
Landscape oil palm plantation in Muara Kaman Ilir village, Kutai Kartanegara, East Kalimantan

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List of abbreviations and acronyms

| | |
|-----------------|---|
| ABS | Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization |
| AMAN | <i>Aliansi Masyarakat Adat Nusantara</i> – The Indigenous Peoples’ Alliance of the Archipelago |
| AMDAL | <i>Analisis Mengenai Dampak Lingkungan</i> – Environmental Impact Assessment |
| Bappenas | <i>Badan Perencanaan Pembangunan Nasional</i> – National Development Planning Agency |
| BAU | Business as Usual |
| BIG | <i>Badan Informasi Geospasial</i> – Geospatial Information Agency |
| BKPM | <i>Badan Koordinasi Penanaman Modal</i> – Investment Coordination Board |
| BLU | <i>Badan Layanan Umum</i> – Public Service Agency |
| BPDLH | <i>Badan Pengelola Dana Lingkungan Hidup</i> – Environment Fund Management Agency |
| BP-REDD+ | <i>Badan Pengelola REDD+</i> – REDD+ Agency |
| BUMDes | <i>Badan Usaha Milik Desa</i> – Village-owned enterprise |
| CBD | Convention on Biological Diversity |
| CDM | Clean Development Mechanism |
| CH ₄ | Methane |
| CHM | National Biodiversity Clearing House |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CMEA | Coordinating Ministry for Economic Affairs |
| CO ₂ | Carbon dioxide |
| COP | Conferences of the Parties |
| DAK | <i>Dana Alokasi Khusus</i> – Special Allocation Fund |
| DJPPPI | <i>Direktorat Jenderal Pengendalian Perubahan Iklim</i> – Directorate General for Climate Change Control |
| DNPI | <i>Dewan Nasional Perubahan Iklim</i> – National Council on Climate Change |
| ER | Emission Reduction |
| FAO | Food and Agriculture Organization |
| FKKM | <i>Forum Komunikasi Kebutuhan Masyarakat</i> – Community Forestry Communication Forum |
| FLEG | Forest Law Enforcement and Governance |
| FLEGT | Forest Law Enforcement, Governance and Trade |
| FMU | Forest Management Unit |
| FORCLIME | Forests and Climate Change Programme |
| FREDDI | Fund for REDD+ Indonesia |
| FREL | Forest Reference Emission Levels |
| FSC | Forest Stewardship Council |
| GCS-REDD+ | The Global Comparative Study on REDD+ |
| GDP | Gross Domestic Product |
| GHG | Greenhouse gas |
| Golkar | <i>Golongan Karya</i> – An Indonesian political party |
| GST | Global Stock Take |
| HA | <i>Hutan Adat</i> – Customary forest |

| | |
|----------------------|--|
| HGU | <i>Hak Guna Usaha</i> – Business Use Rights |
| HKm | <i>Hutan Kemasyarakatan</i> – Community forestry |
| HPH | <i>Hak Pengusahaan Hutan</i> – Forest timber concession |
| HTR | <i>Hutan Tanaman Rakyat</i> – Community plantation forest |
| IBSAP | Indonesian Biodiversity Strategy and Action Plan |
| ICCSR | Indonesia Climate Change Sectoral Roadmap |
| ICW | Indonesia Corruption Watch |
| IFCA | Indonesian Forest Climate Alliance |
| IFL | Intact Forest Landscape |
| InaBIF | Indonesia Biodiversity Information Facility |
| INDC | Intended Nationally Determined Contribution |
| IPKH | <i>Izin Pelepasan Kawasan Hutan</i> – Forest Estate Release Permit |
| ITMK | <i>Izin Tukar Menukar Kawasan</i> – Estate Exchange Permit |
| IUP | <i>Izin Usaha Perkebunan</i> – Plantation Concession Permit |
| IUPHHK-HA | <i>Izin Usaha Pemanfaatan Hasil Hutan Kayu-Hutan Alam</i> – Forest Timber Product Utilization Business Permit for Natural Forest |
| IUPHHK-HTI | <i>Izin Usaha Pemanfaatan Hasil Hutan Kayu-Hutan Tanaman Industri</i> – Forest Timber Product Utilization Business Permit for Plantation Forest |
| IUPHHK-RE | <i>Izin Usaha Pemanfaatan Hasil Hutan Kayu-Restorasi Ekosistem</i> – Forest Timber Product Utilization Business Permit for Ecosystem Restoration |
| JATAM | <i>Jaringan Advokasi Tambang</i> – Mining Advocacy Network |
| KADIN | <i>Kamar Dagang dan Industri Indonesia</i> – Indonesian Chamber of Commerce and Industry |
| KLHK | <i>Kementerian Lingkungan Hidup dan Kehutanan</i> – Ministry of Environment and Forestry |
| KPH | <i>Kesatuan Pengelolaan Hutan</i> – Forest Management Unit |
| KPK | <i>Komisi Pemberantasan Korupsi</i> – Corruption Eradication Commission |
| LAPAN | <i>Lembaga Penerbangan dan Antariksa Nasional</i> – National Institute of Aeronautics and Space |
| LCDI | Low Carbon Development Indonesia |
| LEI | <i>Lembaga Ekolabel Indonesia</i> – Indonesian Ecolabel Institute |
| LHKPN | <i>Laporan Harta Kekayaan Penyelenggara Negara</i> – Declaration of wealth for actors of the State |
| LOI | Letter of Intent |
| LULUCF | Land Use, Land-Use Change and Forestry |
| Madani | <i>Yayasan Madani Berkelanjutan</i> |
| MDG | Millennium Development Goals |
| MER | Monitoring, Evaluation and Reporting |
| MIFEE | Merauke Integrated Food and Energy Estate |
| MK | <i>Mahkamah Konstitusi</i> – Constitutional Court |
| MoEF | Ministry of Environment and Forestry |
| MoF | Ministry of Forestry |
| MP3EI | Masterplan for Acceleration and Expansion of Indonesian Economic Development |
| MRV | Monitoring, Reporting and Verification |
| Mt CO ₂ e | Metric tons of carbon dioxide equivalent |
| N ₂ O | Nitrogen dioxide |
| NAMA | Nationally Appropriate Mitigation Action |
| NBIN | The National Biodiversity Information Network |
| NDC | Nationally Determined Contribution |
| NFMS | National Forest Monitoring System |
| NYDF | New York Declaration on Forests |
| OHL | <i>Operasi Hutan Lestari</i> – Sustainable Forest Operation |
| OSS | Online single submission |
| PA | Paris Agreement |
| PDI-P | <i>Partai Demokrasi Indonesia-Perjuangan</i> – An Indonesian political party |
| PEFC | Program for the Endorsement of Forest Certification |

| | |
|---------|--|
| PEP | <i>Pemantauan, Evaluasi dan Pelaporan</i> – Monitoring, Reporting and Evaluation |
| PIAPS | <i>Peta Indikatif dan Areal Perhutanan Sosial</i> – Indicative Map and Social Forestry Area |
| PIPPIB | <i>Peta Indikasi Penundaan Pemberian Izin Baru</i> – Indicative Map of Moratorium on New Permits |
| PKB | <i>Partai Kebangkitan Bangsa</i> – An Indonesian political party |
| PNBP | <i>Penerimaan Negara Bukan Pajak</i> – Non-tax State Revenue |
| PPP | <i>Partai Persatuan Pembangunan</i> – An Indonesian political party |
| PPRK | <i>Perencanaan Pembangunan Rendah Karbon</i> – Low Carbon Development Planning |
| PTSP | <i>Pelayanan Terpadu Satu Pintu</i> – One-stop Integrated Service |
| RAN-GRK | <i>Rencana Aksi Nasional – Gas Rumah Kaca</i> – National Action Plan for Greenhouse Gas Emissions Reduction |
| RAPS | <i>Reformasi Agraria dan Perhutanan Sosial</i> – Agrarian Reform and Social Forestry |
| RDTR | <i>Rencana Detil Tata Ruang Kabupaten atau Kota</i> – District or Municipal Spatial Plan |
| REDD+ | Reducing Emission from Deforestation and Forest Degradation |
| RIL | Reduced Impact Logging |
| RKP | <i>Rencana Kerja Pemerintah</i> – Government Work Plan |
| RTRW | <i>Rencana Tata Ruang Wilayah Nasional</i> – National Spatial Plan |
| SDGPT | Genetic Resources and Traditional Knowledge |
| SF | Social Forestry |
| SILIN | <i>Silvikultur Intensif</i> – Intensive Silviculture |
| SILK | <i>Sistem Informasi Legalitas Kayu</i> – Timber Legality Information System |
| SIPHPL | <i>Sistem Informasi Pengelolaan Hutan</i> – Information System of Sustainable Production Forest Management |
| SIPUHH | <i>Sistem Informasi Penatausahaan Hasil Hutan</i> – Forest Product Administration Information System |
| SIRPBBI | <i>Sistem Informasi Rencana Pemenuhan Bahan Baku Industri</i> – Information System for Industrial Raw Material Fulfillment Plans |
| SKKLM | <i>Surat Keputusan Kelayakan Lingkungan Hidup</i> – Environmental Feasibility Decree |
| SRN | <i>Sistem Registri Nasional</i> – National Registry System |
| SVLK | <i>Sistem Verifikasi Legalitas Kayu</i> – Indonesian Timber Legality Assurance System |
| Tahura | <i>Taman Hutan Raya</i> – Great Forest Park |
| TORA | <i>Tanah Objek Reforma Agraria</i> – Agrarian Reform Land |
| UKCCU | United Kingdom Climate Change Unit |
| UN | United Nations |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNFF | United Nations Forum on Forests |
| US | The United States |
| VNC | Voluntary National Contribution |
| VPA | Voluntary Partnership Agreement |
| WRI | World Resources Institute |

Executive summary

REDD+ in Indonesia has progressed significantly since CIFOR published its first country profile for Indonesia in 2012 (<https://www.cifor.org/knowledge/publication/3876>). This 2021 study is an updated version of that report. These REDD+ country profiles – both the 2012 and the 2020 versions – examine drivers of deforestation and forest degradation, institutional settings and governance for REDD+, the political economy of drivers of deforestation and forest degradation, REDD+ actors and agents, as well as implementation of the ‘3Es’ (Effectiveness, Efficiency and Equity) for REDD+.

Between 2012 and 2020, the political context has changed drastically in Indonesia and so have REDD+ developments. Indonesia’s previous president, Susilo Bambang Yudhoyono (SBY), who led the country from 2004-2014, brought climate change to Indonesia’s agenda, adopted REDD+ as a national program and initiated a moratorium on new licenses to exploit primary forest. When President Joko Widodo (Jokowi) took over in 2014, though he changed the system of governance during his first term, most programs were left in place. The most drastic change was that REDD+, previously governed under an independent body, was integrated into the Ministry of Forestry, which merged with the Ministry of Environment to become the Ministry of Environment and Forestry (MoEF).

This updated version of the 2012 country profile highlights these and other changes up to 2020.

Our findings show that reducing deforestation and forest degradation in Indonesia remains a struggle. Deforestation and forest degradation continue to be persistent challenges and still contribute significantly to greenhouse gas emissions. Forest land-use change and peat fires contribute approximately 48% of the country’s total greenhouse gas (GHG) emissions.

Although, Indonesia claims to have reduced its deforestation rate to 0.4 million hectares (ha) annually from the 3.51 million ha annually during the 1996-2000 period deforestation rates are difficult to assess accurately since forest, forest land and deforestation are defined in various ways, and actors will use the most advantageous definition with data collected accordingly. Further, differences in calculation and satellite data interpretation methods result in different rates. The three largest islands with the most forest (Sumatra, Kalimantan and Papua) continue to show deforestation and forest degradation at different rates.

In earlier periods, primary forest was often degraded first through logging and/or encroachment, then converted to non-forest. More recently however, deforestation is occurring with primary forest being converted directly to non-forest, without being degraded first.

Drivers of deforestation remain largely the same as those highlighted in the first country profile: land-use change where forest is converted to non-forest uses; forest fires; infrastructure development; mining activities; and (legal and illegal) intensive logging of natural forests by timber concession holders. Currently, by far the most discussed driver of deforestation is the large- (and small-) scale conversion of forest estate for use by other sectors (agricultural expansion/estate crops).

The main underlying cause of deforestation and forest degradation in Indonesia is the drive for economic development. The production of specific products is actively encouraged in response to global demand. While aiming to reduce deforestation on the one hand, national development objectives as defined by the President’s visions and missions continue to allow and indeed encourage many of these deforestation drivers.

Indonesia is party to many international agreements aiming to mitigate climate change (UNFCCC), improve forest governance (UNFF, FLEGT, Amsterdam Declarations, Bonn Challenge and the New York Declaration on Forests) and protect biodiversity (CBD, CITES). Though not as high on the agenda as before, forests are still expected to play an important role, particularly in climate change mitigation, by contributing 38% to the conditional 41% emissions reduction target of Indonesia's nationally determined contribution (NDC) commitments.

To fulfill its commitments, Indonesia has initiated several policies aimed at improving forest governance. Decentralization has been partly rolled back with forest governance becoming the responsibility of the central and provincial governments. Forest Management Units (*Kesatuan Pengelolaan Hutan* or KPH), mandated since 2007, were brought into play. In addition, the government initiated the *Perhutanan Sosial* or social forestry program, targeting 12.7 million ha of forest for management by local communities.

While social forestry is expected to contribute to improved forest governance and climate change mitigation and adaptation, it is also expected to be run through enterprises aimed at providing additional income to forest managers. Oil palm expansion and mining are still considered strategic areas for further development. The new Omnibus Bill, intended to facilitate business enterprises by streamlining licensing processes, was adopted in 2020.

The law also simplified environmental impact analyses, thereby making them easier to ignore. These and other issues in a political economy context are discussed further in Section 3, which also provides a review of the political economy processes underlying deforestation over the last 10 years. This section shows the role forests have played in creating wealth and power, and how this power is reproduced in more recent development efforts, such as the Masterplan for Acceleration and Expansion of Indonesian Economic Development and national infrastructure development. Patronage and politics are closely intertwined with the business domain, and together with apparent persistent corruption, continue to drive Indonesia's political and economic development.

Our report also shows that REDD+ is part of the larger climate change policy framework, such as in the more general National Action Plan for Greenhouse Gas Emissions Reduction (RAN-GRK). RAN-GRK and the Green Growth Program (*Program Pertumbuhan Ekonomi Hijau*) were initiated by the National Development Planning Agency (Bappenas). Yet the top five mitigation action plans with the largest emission reduction targets in RAN-GRK were forest related. These were: (i) forest area gazettelement; increasing the area of timber plantations; land resource research and development to enhance agriculture land management, including on peatlands; (iv) social forestry development; and (v) development of agriculture management on abandoned and degraded peatlands to support plantations, animal husbandry and horticulture. Together with the REDD+ program itself, these all fall under the authority of MoEF.

The National Climate Change Council (*Dewan Nasional Perubahan Iklim* or DNPI) and the REDD+ Agency (*Badan Pengelola REDD+*) were abolished in 2015, and REDD+ has subsequently become a task for the Ministry of Environment and Forestry (MoEF). A new Directorate General for Climate Change Control (*Direktorat Jenderal Pengendalian Perubahan Iklim* or DJPPI) has been established to serve as the National Focal Point for UNFCCC and tasked with the formulation and implementation of policies pertaining to climate change.

REDD+ is administered by a Sub-Directorate for REDD+ (*Sub Direktorat REDD+* at Echelon 3 level) under the DJPPI's Directorate of Mitigation. The DJPPI, however, only formulates and implements procedural regulations regarding REDD+ as well as coordinating, monitoring and evaluating, and reporting REDD+ implementation, while "substantive" REDD+ policies, programs and activities, such as the moratorium, oil palm moratorium, peatland protection, peatland restoration, sustainable forest management, social forestry, critical land rehabilitation, etc. are formulated and implemented by other directorate generals under MoEF.

The different policies supporting REDD+ are discussed further in this section. Of prime importance is the moratorium on issuing new licenses on primary forest and peatlands. It is the policy with the the greatest mitigation potential, both if extended in its current form through to 2030 and even more so if expanded to include secondary forests and forest areas under concession licenses. The moratorium policy was first issued in May 2011, has been renewed four times, and in 2019 became a permanent policy. Second is Government Regulation No. 71/2014 on Peatland Protection and Restoration. This regulation mandates a minimum 30% of peatland hydrological units (*Kesatuan Hidrologis Gambut* or KHG) must be zoned as Protection Peat Ecosystems. It also sets out a damage threshold for peat ecosystems and measures that must be taken to restore them. Driven by the disastrous forest and land fires of 2015, the President publicly stated that no more licenses would be issued on peatlands (in line with the moratorium) and there would be review of existing licenses on peatlands. Complementary to these policies is the moratorium on palm oil expansion.

The One Map policy, initiated in 2010 under the previous president, is another policy carried over and renewed under the current president. Its aim is to resolve discrepancies between thematic and sectoral maps through a process of compiling and synchronizing all maps into a single geospatial reference. Despite being targeted for completion in June 2019, it is still very much a work in progress.

As in all country profiles, the final section uses the '3Es' (Effectiveness, Efficiency and Equity) as a lens for assessing REDD+ policies and their implementation. Results are mixed. Indonesia has achieved significant progress in reducing deforestation and forest fires. Yet, deforestation and forest degradation still persist. The moratorium has halted forest conversion but there are many loopholes, while the drive for economic development allows 'planned' deforestation and oil palm plantation expansion.

Overall, the implementation of policies has had mixed results:

- Indonesia has signed various international agreements, but implementation of these commitments remains weak

- Institutional arrangements and regulations reflect REDD+ readiness in Indonesia but REDD+ development is highly influenced by contradictory regulations and weak coordination between government agencies
- National political regimes have changed, affecting commitments to transformation with weak implementation on the ground
- There is a disconnect between central and regional levels
- The impact of REDD+ projects remains unclear as comprehensive impact assessments have yet to be conducted
- Business as usual continues with REDD+ seen more as a conventional solution to bridge conservation and development.

In short, addressing drivers of deforestation and degradation is challenging when economic policies encourage expansion of both small- and large-scale commercial plantations, infrastructure development and expansion, and economic growth. 'Planned deforestation' is still part of the economic development picture.

On the other hand, efficiency in governance has improved over the years with a more educated elite understanding the cost of inefficiency. Integrating REDD+ into MoEF should strengthen the connection between national and subnational levels, while the streamlining of licensing systems is also aimed at reducing transaction costs. However, delays in processing, as well as conflicts and corruption all increase transaction costs. Better targeted funding could save costs. For example, by targeting efforts to reduce deforestation in protected areas, and working with oil palm and timber concessions to maximize emissions reductions at the lowest cumulative cost. Low-cost opportunities for reducing emissions from oil palm are where concessions have been granted on deep peat deposits or unproductive land.

From an equity perspective, REDD+ has been faring better than other projects but is still not achieving satisfactory levels of distributive, procedural or contextual equity. For example, even though the government has targeted a re-distribution of more than 10% of the forest estate to local communities, in fact, some 96% is controlled by large corporations, leaving only 4% for local communities. Though REDD+

safeguards do include clarification of rights, including tenurial rights, there is no requirement for central and regional government to protect or even respect these rights. The government has streamlined its licensing system to promote economic entrepreneurship, including for permits to start forest-based enterprises. However, while the system does allow more efficient applications and

approvals, it has not been equitable thus far. As has long been the case, the system and opportunities are captured by those with more skills and better access to administrative centers. Elite capture is further enhanced and reproduced through the political system. Political support is exchanged for political power, which in turn allows the building of economic power.

1 Introduction

Indonesia was one of the early adopters of REDD+ and has made much progress in attempting to implement the REDD+ program. Yet, as is the case with most countries participating in REDD+ programs, it remains unclear to what extent deforestation and forest degradation have been reduced and to what extent overall implementation has been and is effective, efficient and equitable.

Drivers of deforestation and forest degradation are often highly complex and can form dense networks of interlinked economic and political interests. Over time, changing political regimes often lead to changing views on the importance of forests, deforestation and climate change. Reducing emissions from forest degradation and deforestation can thus be seen as a controversial approach in the context of national development paradigms and existing policy frameworks.

In the context of a Global Comparative Study on REDD+ (GCS-REDD+), CIFOR together with country partners, has compiled profiles of 17 countries, including Indonesia, to better understand the socioeconomic contexts in which REDD+ policies and processes emerge. The profiles show the complex relationships between drivers, agents and institutions within the national context are vital to ensuring effective implementation of REDD+.

The first Indonesia country profile was published in 2012. Since then, Indonesia has had a change in president and a change in its vision for development. The previous president, Susilo Bambang Yudhoyono (SBY), brought climate change to Indonesia's agenda, adopted REDD+ as a national program and initiated a moratorium

on new licenses to exploit primary forest. When President Joko Widodo (Jokowi) took over in 2014, though he changed the system of governance during his first term, most programs were left in place. The most drastic change was that REDD+, previously governed under an independent body, was integrated into the Ministry of Forestry, which merged with the Ministry of Environment to become the Ministry of Environment and Forestry (MoEF).

Although governance issues have remained largely the same since the first version of the country profile – continued dependence on natural resources, clarification of tenurial rights, conversion of forests to other uses, illegal logging, decentralization processes and weak governance – the political change has altered the relationship between drivers, agents and institutions involved in forest governance. Indonesia announced its results-based payments from Norway and the Green Climate Fund (GCF) in May and August 2020 respectively. These moments mark milestones in Indonesia's implementation of REDD+, though further evaluations and actions are still necessary, i.e. matters relating to benefit sharing for prospective beneficiaries.

For these reasons, the 2012 country profile needed updating. In doing so we followed the Global Comparative Study on REDD+ guidelines (Brockhaus et al. 2012) for assessing REDD+ at the country level. Using the 2012 country profile as the point of departure, we amended the content by collecting both secondary and primary data. We also made use of the collective knowledge of several experts through partnerships with WRI Indonesia and Madani.

The document is structured following the original country profile and the GCS-REDD+ guidelines in examining five areas:

- drivers of deforestation and forest degradation
 - institutional environment and revenue distribution mechanisms
 - political economy of deforestation and forest degradation
 - political environment of REDD+: actors, events and processes
- implications of the country's current REDD+ design for effectiveness, efficiency and equity.

We hope that this report can inform decision makers, practitioners and donors of the opportunities and challenges involved in implementing REDD+ and support future evidence-based REDD+ decision-making processes.

2 Analysis of the drivers of deforestation and forest degradation

Indonesia is a vast archipelagic nation with five large islands and thousands of smaller islands. Officially, 120.6 million ha, or 63 percent of the nation's entire land area is designated as forest estate (Central Statistics Agency 2020). To better comprehend the extent of Indonesia's forests, its 94.1 million ha of forest cover (MoEF 2020) is almost equivalent to the total area of three countries, Norway, Sweden and Portugal combined. Indonesia's forests are home to thousands of flora and fauna species, and 50-60 million Indonesians depend directly on forests for their livelihoods.

Since the original country profile was published, deforestation and forest degradation have remained a persistent challenge for forest management in Indonesia (Santosa et al. 2013; Enrici and Hubacek 2016; Tacconi et al. 2019). As with previous governments, the current administration continues to rely on natural resources to finance development. Timber is extracted from forests, and some forests are converted to timber plantations and estate crops to support pulp and paper, palm oil and downstream industries so the government can secure earnings. The government also relies on revenues from the mining sector, with mining companies frequently operating in state forests and driving further deforestation and forest degradation. The government policy of relying on natural resources to support development is apparent from the finance note for the 2010 state budget. The document shows that in 2006, natural resources contributed 73.9% of total non-tax state revenues (PNBP). Furthermore, natural resources contributed around 30% of gross domestic product (GDP) with the forestry sector contributing 2.4%.

Despite having the third largest area of tropical forest, Indonesia is also the world's sixth largest emitter of greenhouse gases (Harris et al. 2015). According to Indonesia's First Biennial Update

Report submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2016, its total greenhouse gas (GHG) emissions in 2012 were estimated at 1454 million metric tons of carbon dioxide equivalent (Mt CO₂e) for the three main greenhouse gases: carbon dioxide (CO₂), methane (CH₄) and nitrogen dioxide (N₂O). The main contributors are land-use change and peat fires, representing approximately 48% of total GHG emissions, followed by the energy sector at around 35%.

This section is divided into three sub-sections. The first describes Indonesia's forest definitions, area, types, status and forest data as well as ongoing deforestation and forest degradation. Sub-section 2 identifies and highlights drivers of deforestation and forest degradation, while the final sub-section discusses mitigation potential.

2.1 Indonesia's forest: Changes since 2012

2.1.1 Forest definitions

Indonesia's definition of forest has not changed but is often interpreted differently according to context. Under Indonesian regulations, forest is defined as "an integrated ecosystem within a landscape containing biological resources, dominated by trees in harmony with its natural environment and inseparable from one another" (National Forestry Law 41/1999; Ministerial Decree 70/12/2017; and Government Regulation No. 104/2015). Minister of Forestry Decree No. 14/2004 on Clean Development Mechanism (CDM) provides the following formal definition: "an area of more than 0.25 hectares with trees higher than 5 meters at maturity and a canopy cover of more than 30 percent, or trees able to reach these thresholds in situ" (MoF 2004). This

definition differs slightly from the United Nations (UN) Food and Agriculture Organization (FAO) definition, where forest is defined as “a land area of more than 0.5 ha with tree canopy cover of more than 10 percent and trees higher than 5 meters at maturity” (FAO 2001).

In addition to the above definitions, the Government of Indonesia also describes the term ‘forest estate’ (*kawasan hutan*), which is a particular area designated by the government (Ministry of Environment and Forestry) to maintain its existence as permanent forest (National Forestry Law 41/1999). From this definition, it can be inferred that forest estate is not always forested or has trees growing within it. Rather, it might include non-forested lands, such as bare land, settlements, plantations, etc. It also implies that a large area dominated by forest is not necessarily designated as forest estate. Indeed, from the 94.1 million ha covered by forest, some 8% are outside the state forest estate (MoEF 2020).

How forest cover is defined will affect deforestation area calculations. Land cover data produced annually by MoEF consists of six natural forest categories: primary and secondary dryland forests, primary and secondary peat swamp forests, and primary and secondary mangrove forests. Additionally, MoEF includes timber plantations (*hutan tanaman industri*) in its definition of forest. This means that conversion of any category of natural forest to timber plantation may not be considered deforestation. MoEF calculates both net-deforestation, i.e. deforestation considering afforestation and reforestation in the estimate, and gross-deforestation, i.e. deforestation estimated without considering afforestation and reforestation.

Minister of Forestry Regulation No. 30/2009 defines deforestation as “the permanent alteration from forested area to non-forested area as a result of human activities”. Similarly, according to decision 11/CP.7(UNFCCC 2002): “deforestation is the direct human-induced conversion of forested land to non-forested land”, while UN FAO defined deforestation as the “conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10 percent threshold” (FAO 2001).

Potapov et al. (2017) defined Intact Forest Landscape (IFL) as a “continuous state of forest or less-dense natural vegetation ecosystem within a minimum area of 50,000 ha, where no anthropogenic activity is detected”. They limit the IFL definition due to its critical role for stabilizing terrestrial carbon storage, harboring biodiversity, regulating hydrological regimes, and providing other ecosystem functions. Differing slightly from the IFL definition, Margono et al. (2014) define primary forest as a “≥ 5 ha area of natural forest, both intact and degraded, whose natural structure and composition is preserved, and this area historically has never experienced land clearing and/or replanting”. Similar to IFL, primary forest also includes the requirement of no detectable human induced land cover change or fragmentation.

2.1.2 Forest classifications

By legal definition, a forest estate is a specific area designated by the Government of Indonesia through the Ministry of Environment and Forestry (MoEF), whose function should be maintained as forest (Government Regulation No. 104/2015). This designated area is known as ‘*Kawasan Hutan*’ and comprises the state-controlled forest estate, privately owned forest and customary forest. The last two have been largely ignored in forest governance until a recent regulation highlighting their status (P. 21/MENLHK/SETJEN/KUM.1/4/2019). This state forest estate is classified according to function: conservation forest (*hutan konservasi*), protection forest (*hutan lindung*) and production forest (*hutan produksi*) where different activities may apply. In this legal classification, forested lands outside the legally designated forest estate are defined as other use areas (*areal penggunaan lain* or APL).

According to Indonesian Law No. 41/1999, conservation forest is forest estate with specific characteristics and the primary function of conserving plant and wildlife biodiversity and their ecosystems; protection forest is forest estate with the primary function of protecting life support systems to regulate water, prevent flooding, control erosion, prevent seawater intrusion and maintain soil fertility; and production forest is forest estate with the primary function of producing forest products.

Based on its definition and function, conservation forest is designated primarily to preserve a vital ecological value. Therefore, human activities in such areas should be kept to a minimum. These areas allow social forestry schemes to exist, but tree harvesting is prohibited. Rules governing protection forest are less strict than those for conservation forest. Social forestry schemes and lease-use permits are allowed in protection forest estate, but tree harvesting is only legal in areas subject to lease-use permits.

Production forest estate is generally divided into three categories: limited production forest, permanent production forest, and convertible production forest. In these three categories, different forest concessions are issued for different purposes. Concession permits include Forest Timber Product Utilization Business Permits for Natural Forest (*Izin Usaha Pemanfaatan Hasil Hutan Kayu-Hutan Alam* or IUPHHK-HA), Forest Timber Product Utilization Business Permits for Plantation Forest (*Izin Usaha Pemanfaatan Hasil Hutan Kayu-Hutan Tanaman Industri* or IUPHHK-HTI), Forest Timber Product Utilization Business Permits for Ecosystem Restoration (*Izin Usaha Pemanfaatan Hasil Hutan Kayu-Restorasi Ekosistem* or IUPHHK-RE) and others. Tree harvesting is legal in these areas as long as it occurs inside a designated forest concession. Table 1. Illustrates the general differences between forest categories based on Government Regulation No. 83/2016, Law No. 41/1999, Regulation No. 50/2016 and Regulation No. 9/2015.

Table 1. Differences in forest estate category by function

| Legal Forest Estate | Designated Function | Tree harvesting |
|----------------------|-------------------------------------|-----------------|
| Conservation forest | Social forestry schemes are allowed | Illegal |
| Protection forest | Social forestry schemes are allowed | Illegal |
| | Lease-use permits are allowed | Legal |
| Production forest | Limited Production Forest (HPT) | Legal |
| | Permanent Production Forest (HPt) | Legal |
| | Convertible Production Forest (HPK) | Legal |
| Other use area (APL) | Non forest estate | Legal |

Sources: Government Regulation No. 83/2016, Law No. 41/1999, No. 9/2015 and No. 50/2016

This understanding of land classification gave rise to the terms ‘planned deforestation’ and ‘unplanned deforestation’. Planned deforestation refers to deforestation that occurs in areas designated for forest concessions, mostly in the production forest and other use area categories. In other words, planned deforestation is expected when a forest concession permit is issued. Unplanned deforestation refers to deforestation that takes place in non-forest-concession areas, primarily in conservation forest and protection forest estate. Unplanned deforestation is considered more endangering than planned deforestation due to the legal status attached to the forest estate. Thus, unplanned deforestation is considered illegal forest clearance. Furthermore, land status for forest estate may change over time resulting in a different composition of planned and unplanned deforestation.

2.1.3 Indonesia’s forest estate

Understanding the function of each legal forest estate category will help in comprehending deforestation and forest degradation trends in Indonesia. Table 2 shows legal forest estate type by area in Indonesia. Data from 2018 show the largest proportions of Indonesia’s forest estate were allocated for production forest and other use areas, at 38% and 32%, equal to 72 and 61.5 million ha respectively. Conservation forest and protection forest covered only 12% and 18% of the total forest estate, equal to 22.9 and 35 million ha respectively.

Table 2 shows forest cover in 1990 by forest estate category based on data from 2018. The data shows around 15% of the forested area in 1990 had been designated as ‘other use area’ by 2018, while 47% of the forested area in 1990 had become production forest. Concession permits such as Business Use Rights (*Hak Guna Usaha* or HGU) for oil palm plantations, and the various types of Forest Timber Product Utilization Business Permits (IUPHHK) were allocated primarily in other use areas and production forest estate. This implies that from 1990 to 2018, almost 69 million ha of forest cover was allocated for planned deforestation.

Table 2. Forest cover in 1990, based on MoEF forest estate data from 2018

| Forest estate category | Hectares | % |
|------------------------|---------------|-----|
| Conservation forest | 18,283,235.59 | 16% |
| Protection forest | 25,195,537.25 | 22% |
| Production forest | 52,233,575.40 | 47% |
| Other use area | 16,605,310.94 | 15% |

Sources: MoEF 1990; MoEF 2018b

Many adjustments have been made since 2005, as is apparent in Table 3. While the area designated for conservation forest increased, the overall area of estate forest decreased, mostly through the release of permanent and convertible production forest.

Table 3. Changes in forest estate composition over time

| Forest estate category | 2005 (ha) | 2008 (ha) | 2018 (ha) |
|-------------------------------|--------------------|--------------------|-----------------------|
| Conservation forest | 20,080,000 | 19,908,000 | 22,101,271.00 |
| Protection forest | 31,782,000 | 31,604,000 | 29,661,015.37 |
| Limited production forest | 21,717,000 | 22,502,000 | 26,787,910.70 |
| Permanent Production forest | 35,813,000 | 36,649,000 | 29,202,047.67 |
| Convertible production forest | 14,057,000 | 22,759,000 | 12,847,548.99 |
| Designated function | 0.0007 | 0.233 | |
| Total | 123,459,000 | 133,694,000 | 120,599,794.73 |

Sources: Indrarto et al. 2012; MoEF 2018b

Since the first edition of the country profile released in 2012, aggregate forest cover in Indonesia has reached above 93,000,000 ha (see Figure 1). However, forest cover fluctuated nationwide during 2012-2017, ranging from 88,323,600 to 93,949,900 ha. Forest cover peaked in 2014, reaching 95,766,400 ha. The lowest level over the same period occurred in 2012.

At the regional level, Kalimantan and Papua have the highest levels of forest cover compared to Sumatra, Java, Bali, Nusa Tenggara and the Moluccas (see Table 4). During 2012-2017, forest cover in these two regions consistently remained above 25 million ha and peaked in 2014. In 2017, forest cover in Kalimantan was approximately 26,695,200 ha, making it 1,603,200 ha higher than in 2012. Meanwhile, in Papua, forest cover in 2017 was 984,100 ha higher than in 2012. Even though the total land area of Java (13,316,800 ha) is significantly higher than the Moluccas (7,752,700 ha) and Bali and Nusa Tenggara (7,269,600 ha), Java - Indonesia's most populated island - has always had the lowest area of forest cover. Nevertheless, its forest cover has increased to more than 3,000,000 ha since 2015.

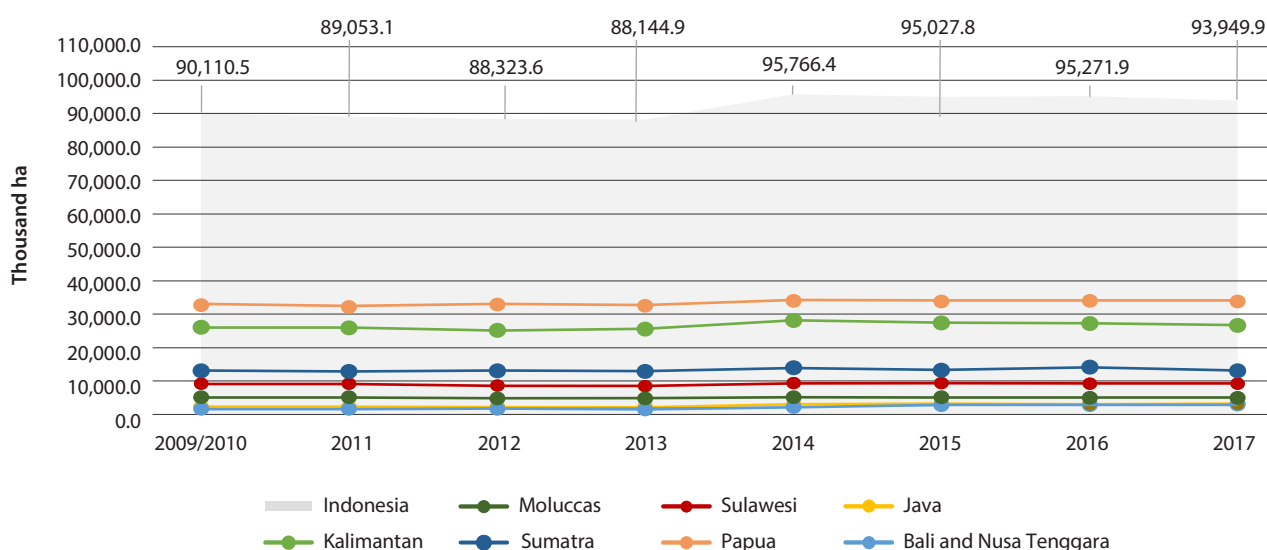


Figure 1. Forest cover in 7 regions in Indonesia, excluding bodies of water

Source: Processed from MoEF (2012, 2013, 2014, 2015a); BPS (2020)

Table 4. Forest cover in regions of Indonesia (ha excluding bodies of water)

| Region | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Total area |
|----------------------|------------|------------|------------|------------|------------|------------|------------|
| Java | 2,174,800 | 2,214,700 | 2,977,600 | 3,206,000 | 3,086,200 | 3,233,400 | 13 316,800 |
| Kalimantan | 25,092,000 | 25,615,200 | 28,160,700 | 27,395,100 | 27,212,100 | 26,695,200 | 53,057,700 |
| Moluccas | 4,844,300 | 4,863,200 | 5,140,800 | 5,087,700 | 4,976,800 | 5,030,800 | 7,752,700 |
| Bali / Nusa Tenggara | 1,757,000 | 1,516,300 | 2,190,300 | 2,860,300 | 2,772,400 | 2,865,500 | 7,269,600 |
| Papua | 32,843,700 | 32,466,500 | 34,020,000 | 33,878,400 | 33,904,200 | 33,827,800 | 40,701,800 |
| Sulawesi | 8,553,600 | 8,528,000 | 9,330,600 | 9,345,600 | 9,237,700 | 9,212,300 | 18,462,900 |
| Sumatra | 13,058,200 | 12,941,000 | 13,946,400 | 13,254,700 | 14,082,500 | 13,084,900 | 47,190,200 |

Sources: Processed from MoEF (2012, 2013, 2014, 2015a); BPS (2020)

Table 5. Areas and percentages of different forest estate categories in each region of Indonesia

| Region | Conservation forest | Protection forest | Production forest | APL other use area |
|---------------|---------------------|-------------------|-------------------|--------------------|
| Java-Bali | 457,081.64 | 671,355.86 | 1,803,590.25 | 2,612,264.26 |
| | 8% | 12% | 33% | 47% |
| Kalimantan | 4,973,633.80 | 6,995,251.57 | 24,252,948.27 | 17,355,925.30 |
| | 9% | 13% | 45% | 32% |
| Moluccas | 638,433.89 | 1,264,388.10 | 4,697,639.37 | 1,464,377.63 |
| | 8% | 16% | 58% | 18% |
| Nusa Tenggara | 430,629.17 | 1,101,338.39 | 988,132.86 | 4,092,037.64 |
| | 7% | 17% | 15% | 62% |
| Papua | 8,546,117.27 | 9,526,242.31 | 20,360,844.59 | 3,621,726.88 |
| | 20% | 23% | 48% | 9% |
| Sulawesi | 2,613,006.41 | 5,011,776.49 | 7,703,582.95 | 7,615,985.39 |
| | 11% | 22% | 34% | 33% |
| Sumatra | 5,235,849.68 | 10,626,626.88 | 12,210,461.43 | 24,814,693.53 |
| | 10% | 20% | 23% | 47% |
| INDONESIA | 22,894,751.86 | 35,196,979.60 | 72,017,199.70 | 61,577,010.62 |
| | 12% | 18% | 38% | 32% |

Source: MoEF 2018b

As each region has different deforestation and forest degradation trends, this section focuses its analysis mainly on the three largest islands (Sumatra, Kalimantan and Papua). This is because of their significant areas, which cover 47.5, 53.5, and 41.2 million ha respectively.

Unlike other regions, the allocation of APL other use areas in Papua and West Papua provinces combined, is the smallest by percentage at around 9% of total area. In contrast to having the lowest percentage of APL areas, Papua has the highest percentage of production forest at 48% compared to Sumatra (23%) and Kalimantan (45%). The combined percentages for production Forest and

APL other use areas helps to illustrate “planned deforestation”, which by definition is the same as legal deforestation as forest or tree cover loss in these areas is predicted and/or allocated. Table 2 shows forest estate data for 2018, which at the time of writing was the most recent and only publicly available spatial data. As it is common for the legal status of forest and land to change over time in Indonesia, it should be noted that in using forest estate data released in 2018 in an analysis with land cover or tree cover loss data for earlier periods (i.e. 1990s, 2000s), the two datasets may not fit. This is because the legal status of forest estate analyzed has changed over time, as shown in Table 5.

In the first country profile, Indrarto et al. (2012) used forest estate area data from 2005 and 2008. Since 2005 the areas of conservation forest, protection forest and production forest estate have changed, with increases and decreases over different time periods. The total area of conservation forest fell from 20,080,000 ha in 2005 to 19,908,000 ha in 2008, and then grew to 22,894,000 ha in 2018; while the total area of protection forest fell from 31,782,000 ha in 2005 to 31,604,000 ha in 2008 and grew to 35,196,000 ha in 2018. In contrast, the total area of production forest estate grew from 71 million ha in 2005 to 81 million ha in 2008, and then fell to 72 million ha in 2018.

2.1.4 Forest data

Several studies estimating deforestation trends in Indonesia are available. This report compares three deforestation analyses based on interpretations of remote sensing data: land cover data from MoEF; primary forest cover data from Margono et al. (2014); and intact forest landscape data from Potapov et al. (2017). A comparison of these three datasets is presented in Table 6 below.

To compare all spatial data and analyses equally, all the spatial data had to be geolocated using the same projection system. As Indonesia is located in the equatorial zone, we applied the sinusoidal projection to minimize any area distortion that may occur during the analyses. This projection has less or almost no distortion for areas near the equator (Bottomley 2003), so most accurately represents the actual extent of areas in Indonesia (see ESRI n.d.; Manifold n.d.). Though we used three different forest datasets to understand forest status and deforestation and forest degradation trends, most of our analyses were based on MoEF land cover data. Unlike the forest estate categories listed in Table 3 above, MoEF land cover data comprises 23 land-use classes, which allow a more thorough analysis of deforestation trends and drivers of deforestation.

Table 6 shows differences between datasets used in estimating deforestation and forest degradation in Indonesia, while Table 8 presents time series data for forest area in Indonesia compiled from the sources listed in Table 6. The MoEF data shown in Table 6 represents six classes of primary and secondary forest, excluding timber plantations. The intact forest landscape data (Potapov et al. 2017) represents only two classes of primary forest: intact forest and degraded forest, while the

Table 6. Differences between deforestation and forest degradation datasets

| | Ministry of Environment and Forestry land cover data (n.d.) | Primary forest cover (Margono et al. 2014a) | Intact forest landscape (Potapov et al. 2017) |
|-----------------------------|---|---|---|
| Forest cover | Natural intact and degraded forest, and plantation forest | Natural intact and degraded forest | Unfragmented forest landscapes, large enough to retain all native biodiversity and showing no signs of human alteration |
| Deforestation coverage | Net deforestation and gross deforestation | Gross deforestation | Deforestation due to anthropogenic disturbance |
| Data Source | Landsat and high-resolution imagery (some) | Landsat TM/ETM | Landsat TM/ETM |
| Image classification method | Visual interpretation | Automatic approach | Visual interpretation |
| Minimum mapping unit | 6.25 ha | 0.09 ha | 0.1 ha |
| Data coverage | National, Indonesia-wide | Primary forest cover Indonesia-wide | Global |

Sources: Margono et al. 2017; Potapov et al. 2017; MoEF 2018

primary forest cover data from Margono et al. (2014) represents only primary forest based on the authors' definition. Despite the differences between the datasets shown in Table 6, their resulting data suggest similar deforestation trends over the same observation period.

Though both Figure 3 (data shown in Box 1) and Table 8 represent Indonesian primary forest cover data referring to (Margono et al. 2014), figures differ over the same observation period. This is because methodology used by Global Forest Watch for determining tree cover loss used primary forest data that had been modified in 2012 and 2013 (University of Maryland n.d.). The primary forest data corresponding to Margono et al. (2014) shown in Figure 3 applies the old methodology, whereas data in Table 8 shows data collected more recently from the Global Forest Watch website, where new methodology has been applied.

Box 1. The politics of numbers in Indonesia's deforestation

In 2014, the journal *Nature Climate Change* reported that Indonesia's deforestation rate reached 840,000 ha in 2012, compared to Brazil's at 460,000 ha in the same period. This made Indonesia number one in the world for tropical primary forest loss. The study, which researched primary forest loss in Indonesia from 2000 to 2012, revealed 6 million hectares of deforestation over the study period, an area half the size of England (Margono et al. 2014a). The head of the National Climate Change Council (DNPI) Secretariat at the time reacted to the study calling it a scientific study with political intent, as it resulted in significantly higher deforestation figures than other studies (Table 7).

Table 7. Deforestation in Kapuas Hulu and Berau districts in Indonesia

| Methods | Deforestation 2005-2010 (ha) | |
|--------------------------------|------------------------------|--------|
| | Kapuas Hulu | Berau |
| Hansen Total Deforestation | 80,677 | 81,630 |
| Hansen Deforestation on Forest | 23,277 | 54,491 |
| Overestimation | 347% | 149% |
| FORCLIME Deforestation | 24,713 | 46,880 |

Sources: GIZ (n.d.) in Purnomo (2014)

The counter argument by the DNPI was that the application of the global tree cover loss algorithm to predict deforestation at the national level had significant flaws, and oversimplification of forest definition in the earlier study had caused an overestimation of primary forest loss for the country.

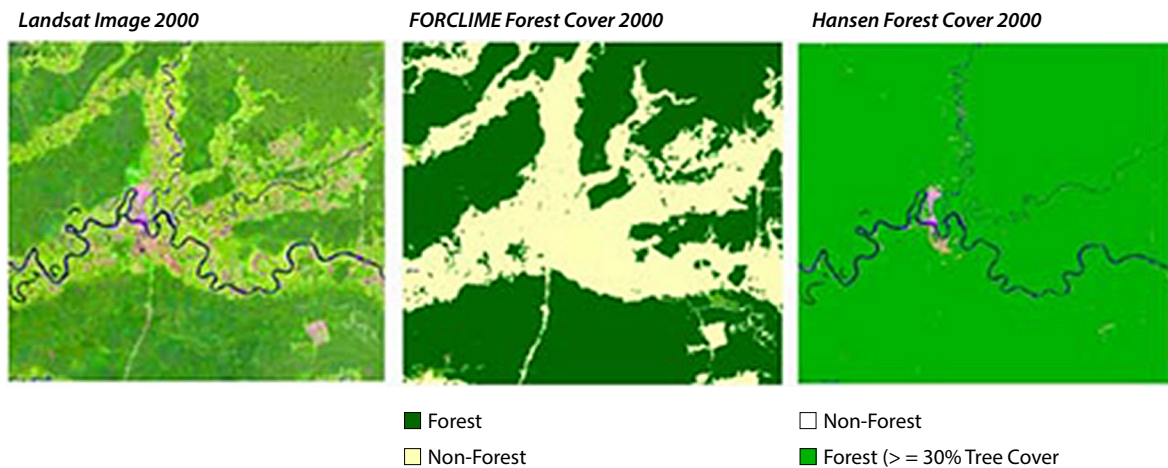


Figure 2. Differences in Landsat, GIZ FORCLIME and Hansen Forest Cover imagery

Source: FORCLIME 2017

Box 1. Continued

Based on the above figure, the Margono et al. (2014a) study used global gross forest loss to define Indonesia's primary forest loss from 2000 to 2012, by defining all land with 5 meter high trees that had not been cleared entirely or replanted as natural forest. This definition is independent of land allocation data, including the forest moratorium map produced by the government. One needs to understand that satellite remote sensing data can be used to differentiate between different land cover types, e.g. forest and non-forest, but it has limitations in assessing land use types, especially if the land use is defined based on legal or political boundaries. Hansen Forest Cover, on the other hand, explains tree cover rather than forest cover. Tree cover is defined as all vegetation greater than 5 meters in height, and may take the form of natural forests or plantations across a range of canopy densities. Tree cover loss indicates the removal or mortality of tree cover and can be due to a variety of factors, including mechanical harvesting, fire, disease, or storm damage. As such, "loss" does not equate to deforestation. Below is a comparison of annual deforestation figures between 2001-2017 as estimated by MoEF, Hansen et al. and Margono et al.



Figure 3. Estimated annual deforestation in Indonesia, 2001-2012

Sources: MoEF (n.d.); Hansen et al. (2013); Margono et al. (2014)

Any discussion about deforestation should include the topics of forest definition and area coverage, differentiation between tree cover and forest cover loss, and methods used to analyze the forest data, so one may have a better perspective about the differences between these estimates.

2.2 Deforestation and forest degradation in Indonesia

According to Ministerial Decree Number 70/12 of 2017, deforestation is defined as “permanent alteration of a forest area into non-forest area resulting from human activity”, and forest degradation as “reduction in quantity of forest canopy and carbon stock over a certain period of time”. In the previous edition we assessed deforestation based on Minister of Forestry Regulation No. P.30/Menhut-II/2009, which defines it as a permanent change from a forested to a non-forested area. Deforestation itself is also divided into two more comprehensive classifications, **net deforestation** as “permanent alteration of forest cover by taking into account vegetation regrowth and replantation of timber plantations (Hutan Tanaman Industri or HTI)”, and **gross deforestation** as “permanent alteration of forest cover into non-forest cover, where vegetation regrowth and replanting in timber plantations (HTI) is not taken into account”. With gross deforestation, once deforestation takes place it is considered irreversible due to the length of time needed for tropical forest to return to its original ecological state as natural forest.

Different to deforestation, “forest degradation is the reduction of canopy cover and/or stocking of the forest” (FAO 2001). Forest degradation is a “reduction in the capacity of a forest to produce ecosystem services such as carbon storage and wood products as a result of anthropogenic and environmental changes” (Thompson et al. 2013). In the process of forest degradation, degraded forest is natural forest, which has been “fragmented, or subjected to forest utilization including for timber and/or non-timber forest product harvesting, that alters the canopy cover and overall forest structure” (ITTO 2002). According to Minister of Forestry Regulation No. 30/2009, forest degradation is a deterioration of forest cover quantity and carbon stock over a certain period of time as a result of anthropogenic activities.

In this country profile, we mainly use Indonesian MoEF land cover data consisting of 23 land cover classes, six of which are natural primary and secondary forest classes from three different

ecosystems (see National Standardization Agency 2010). We intentionally use the gross deforestation definition and exclude timber plantations (*hutan tanaman industri*) from forest classes. Spatial data in Shapefile format was downloaded from the MoEF Geoportal Website, comprising land cover data for 1990, 1996, 2000, 2003, 2006, 2009, 2011, 2012, 2013, 2014, 2015, 2016 and 2017. Appendix 2 shows the 23 MoEF land cover classes together with definitions for each one. In addition to land cover data, some Shapefile format forest-related spatial data were also downloaded from the same website. Details of data and date of acquisition are shown in Appendix 3.

Understanding that forest degradation in the tropics also contributes to huge greenhouse gas emissions (Pearson et al. 2017), forest degradation is one of the concerns REDD+ tries to address. Thus, calculating the total area of forest that has degraded over a given time is as crucial as understanding deforestation trends. Neither intact forest landscape (Potapov et al. 2017) nor primary forest (Margono et al. 2014) data implicitly separate forest class into primary or secondary forest for the observation period, making it hard to analyze forest degradation. Consequently, in order to make the analysis comparable over time this report mostly used MoEF land cover data for its assessments of deforestation and forest degradation and for identifying drivers of deforestation.

The area of both primary and secondary forest fell (Figure 4) during the 1990-2017 period at relatively constant rates for both forest types. The proportions of primary and secondary forest remained relatively stable throughout the study period, but the deforestation rate was generally higher than the rate of forest degradation, particularly in the late 1990s and in 2015 (see Figure 5). With the proportions shown in Figure 4 and the rates shown in Figure 5, we can infer that deforestation in Indonesia does not only involve secondary forest changing to non-forest land cover, but also primary forest being converted directly to non-forest land cover without being degraded first.

Table 8. Indonesia total forest area (Ha) from different forest data sources

| Year | MoEF primary forest (MoEF n.d.) | MoEF secondary forest (MoEF n.d.) | Intact forest landscape (Potapov et al. 2017) | Indonesian primary forest (Margono et al. 2014) |
|------|---------------------------------|-----------------------------------|---|---|
| 1990 | 59,510,000 | 53,240,000 | - | - |
| 1996 | 59,030,000 | 49,890,000 | - | - |
| 2000 | 52,440,000 | 47,500,000 | 36,530,000 | 97,980,000 |
| 2001 | - | - | - | 97,950,000 |
| 2002 | - | - | - | 97,890,000 |
| 2003 | 50,390,000 | 48,220,000 | - | 97,790,000 |
| 2004 | - | - | - | 97,770,000 |
| 2005 | - | - | - | 97,740,000 |
| 2006 | 48,170,000 | 47,920,000 | - | 97,670,000 |
| 2007 | - | - | - | 97,640,000 |
| 2008 | - | - | - | 97,610,000 |
| 2009 | 46,540,000 | 46,810,000 | - | 97,550,000 |
| 2010 | - | - | - | 97,520,000 |
| 2011 | 46,160,000 | 46,090,000 | - | 97,490,000 |
| 2012 | 46,100,000 | 45,360,000 | - | 97,300,000 |
| 2013 | 45,860,000 | 44,720,000 | 32,640,000 | 97,260,000 |
| 2014 | 45,740,000 | 44,480,000 | - | 97,240,000 |
| 2015 | 45,040,000 | 44,450,000 | - | 97,240,000 |
| 2016 | 45,780,000 | 42,270,000 | 31,180,000 | 97,180,000 |
| 2017 | 45,910,000 | 41,700,000 | - | 97,170,000 |

Source: MoEF (n.d.); Margono et al. (2014); Potapov et al. (2017)

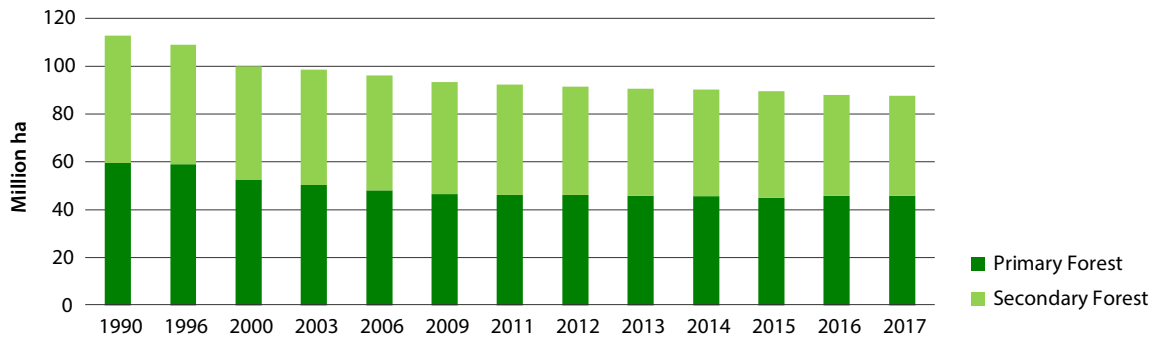


Figure 4. Total primary and secondary forest area in Indonesia

Source: MoEF 2018

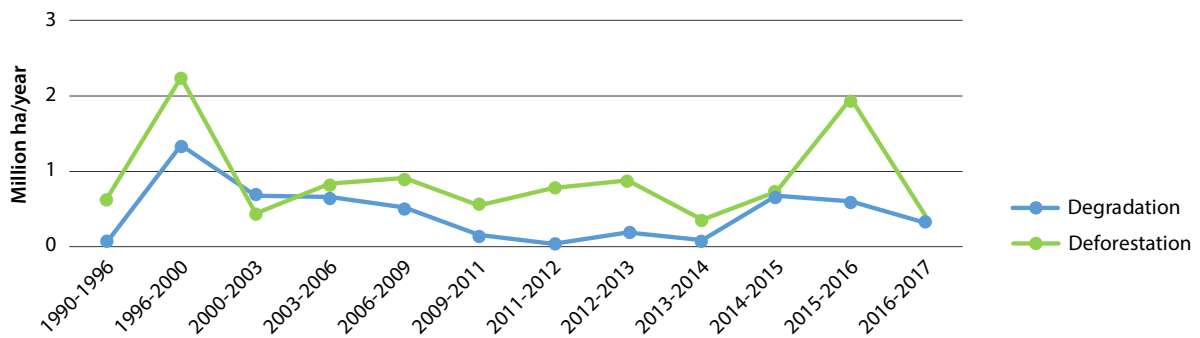


Figure 5. Deforestation and forest degradation rates in Indonesia

Source: MoEF 2018

In August 2020, MoEF claimed that Indonesia had successfully reduced its annual deforestation rate from 3.51 million ha during 1996-2000 to 0.40 million ha (MoEF 2020b). To reach this figure, it had issued several policies, most significantly the moratorium on issuing new licenses for primary forests and peatlands (MoEF 2020a, 2020b). President Joko Widodo turned the moratorium into a permanent policy in 2019 (MoEF 2020a). The Government of Norway contributed to this success through its provision of financial resources and technical assistance under a Letter of Intent signed in May 2010 (MoEF 2020a). Indonesia’s success in halting its deforestation rate in 2017 – referring to the 2006-2016 baseline – contributed to GHG emissions reductions of 4.8 Mt CO₂e. As a result, in early 2019 the Government of Norway moved its bilateral REDD+ agreement with Indonesia to the results-based payment stage (Duchelle et al. 2019).

Deforestation and forest degradation rates show different trends in different regions of Indonesia. During 1990-2017, 35% of total forest degradation in Indonesia occurred in Papua, while 28% and 22% occurred in Sulawesi and Kalimantan respectively (see Figure 6). These are percentages of the total area of primary forest that changed to secondary forest during 1990-2017. Annual deforestation rate data (Figure 7) was generated from MoEF land cover data, where deforestation rates are determined in hectares per year for six primary and secondary forest classes that change to non-forest classes. Annual deforestation in Indonesia ranged from 0.35 to 0.9 million ha annually, peaking in the late 1990s and from 2015-2016. As Sumatra, Kalimantan and Papua include large areas of forest, tracking deforestation rates in these three regions can give an overall illustration of deforestation trends in Indonesia. In the previous report, which summarized studies by MoF (2000, 2005) and Miettinen et al. (2011), despite the slight decline in rate, deforestation in most areas of the country remained high (Indrarto et al. 2012). Indonesia’s deforestation rate was estimated at approximately 1.125 million ha annually, with degradation caused by logging estimated at 0.626 million ha annually (Bappenas 2010 in Indrarto et al. 2012). Despite policies and massive support, deforestation and forest degradation rates are gradually increasing again.

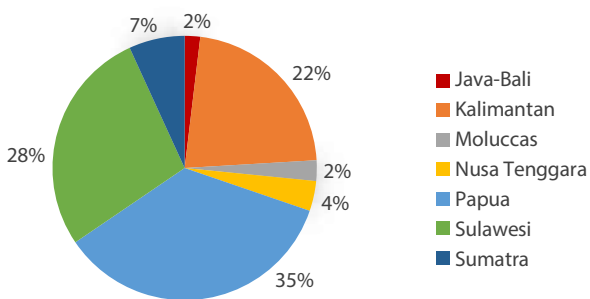


Figure 6. Percentages of total forest degradation in Indonesia by region, 1990-2017

Source: MoEF 2018

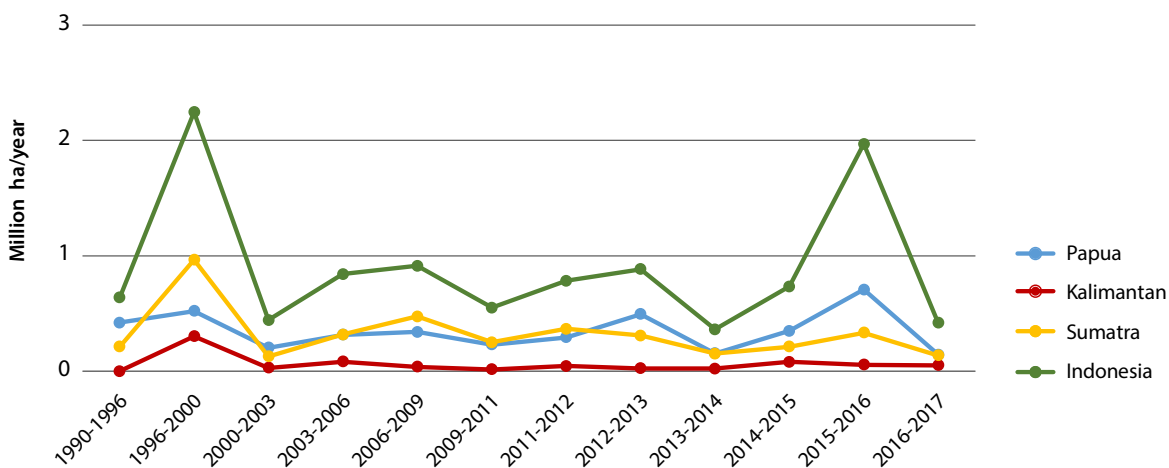


Figure 7. Deforestation rates on Indonesia’s three largest islands

Source: MoEF 2018

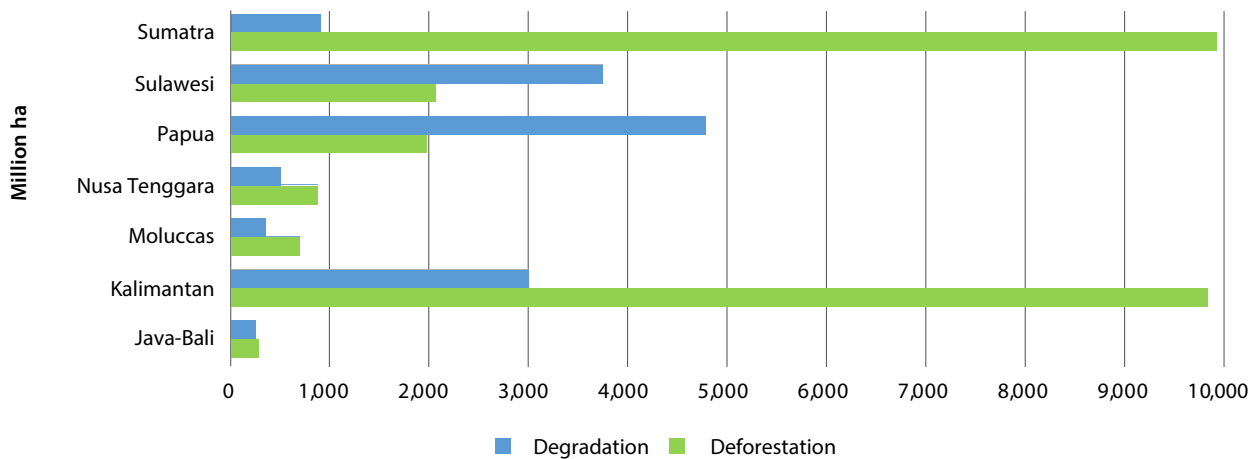


Figure 8. Area of deforestation and forest degradation in seven regions, 1990-2017

Source: Land cover data 1990-2017 (MoEF 2018)

Sumatra experienced the highest deforestation rate in the late 1990s at approximately one million ha annually. The average rate of forest loss in Sumatra during the observation period from 1990 to 2017 ranged from 150,000 to almost 500,000 ha annually. These figures are relatively high compared to forest loss in Kalimantan. Meanwhile, forest loss in Papua remained relatively stable, ranging from around 150,000 to 520,000 ha annually until 2017. The year with the highest level of deforestation was 2015-2016, when approximately 700,000 ha of forest was converted to non-forest.

Annual forest loss in Kalimantan was lower than in Sumatra and Papua, but followed a similar trend to Sumatra, with Kalimantan experiencing its highest annual forest loss from 1996-2000 when the deforestation rate averaged around 300,000 ha annually, up from a relatively low 80,000 ha annually in the early 1990s. From 1990 to 2017, annual forest loss in Kalimantan was lower than Sumatra, averaging below 100,000 ha annually.

With forest degradation and deforestation counted as a single variable, the three largest islands contributed to overall forest loss in different ways. Over the 27-year period, total forest loss in Sumatra and Kalimantan reached 9.87 and 9.77 million ha respectively, meaning these islands alone accounted for almost 20 million ha of forest loss. What happened in Kalimantan and Sumatra was different to Papua, which still has relatively abundant natural forest. Total forest degradation in Papua amounted to approximately 4.77 million ha during the same period (see Figure 6). This finding

should be a serious concern because in future, the trend may change from forest degradation to forest conversion, as human-induced forest degradation usually opens access to dense forest, allowing timber extraction and land clearing to occur.

In Kalimantan, the high forest degradation rate, low annual deforestation rate and very large area of total forest loss, suggest that degradation of primary forest occurred before forest was cleared. In Sumatra, the low forest degradation rate, high annual deforestation rate and very large area of total forest loss, illustrate that deforestation mostly resulted from primary forest being converted to non-forest, without being degraded first. In Papua, even though the annual deforestation rate and total area of forest loss were low by comparison, the total area of forest degradation over the 27-year period should not be disregarded as it accounted for 35% of total forest degradation in Indonesia.

Figures 9, 10 and 11 illustrate areas where deforestation and forest degradation took place during the study period. Deforestation occurred extensively in central Sumatra in the provinces of West Sumatra, Riau and Jambi, while forest degradation was more prevalent in Aceh and South Sumatra provinces. In Kalimantan, deforestation started from flat areas along the coastlines all around the island and progressed to higher elevations. However, closer to the center of the island, where the topography is more rugged, it remained low. Forest degradation occurred primarily in South and North Kalimantan provinces. In Papua, deforestation largely occurred in the southeastern part of the

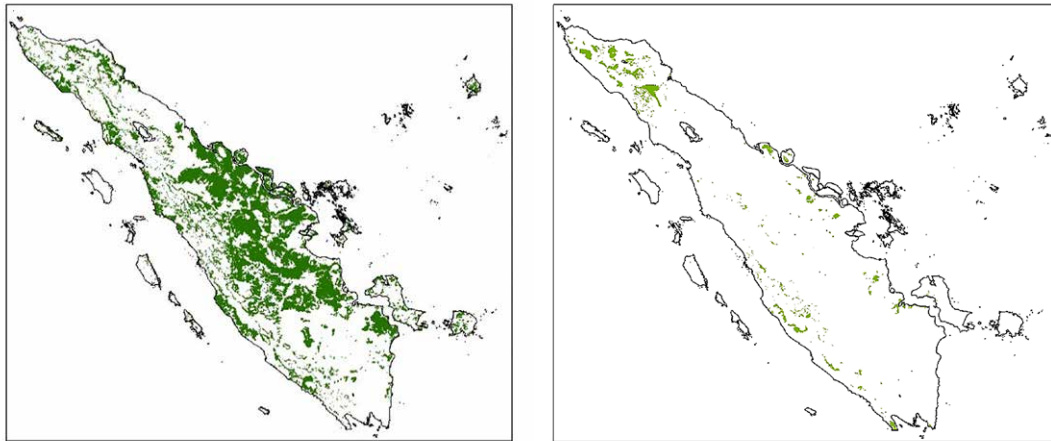


Figure 9. Deforestation (*left*) and forest degradation (*right*) in Sumatra, 1990-2017

Source: MoEF (2018)

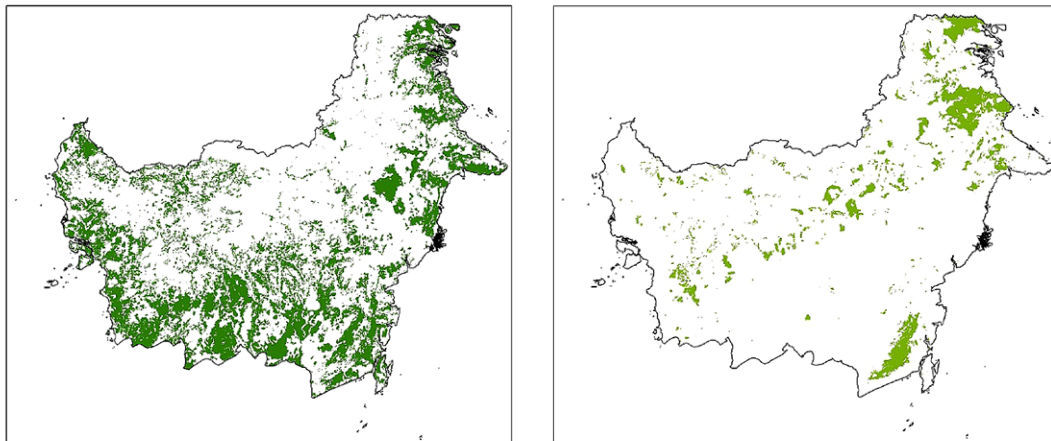


Figure 10. Deforestation (*left*) and forest degradation (*right*) in Kalimantan, 1990-2017

Source: MoEF (2018)

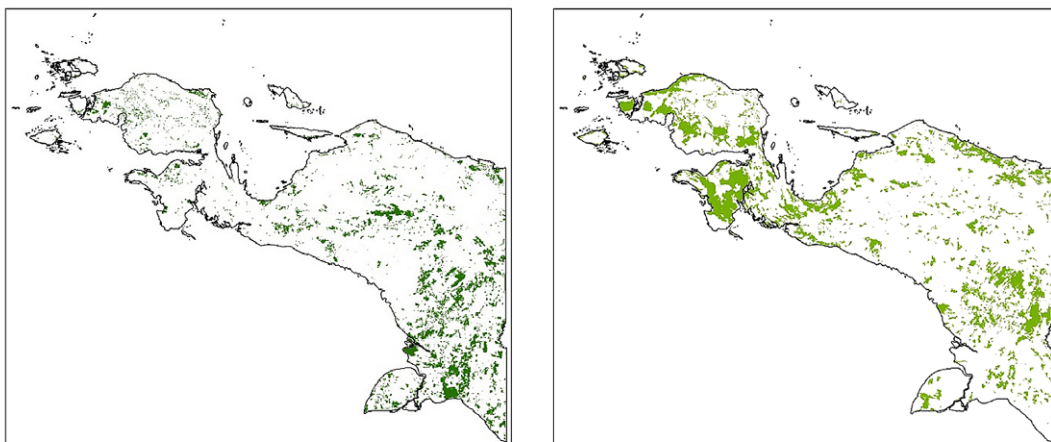


Figure 11. Deforestation (*left*) and forest degradation (*right*) in Papua, 1990-2017

Source: MoEF (2018)

island around Merauke, Mappi and Boven Digoel districts. Forest degradation occurred primarily in West Papua province, especially around the ‘bird’s head’ region. However, some forest degradation occurred around the Bintang mountain range and in Asmat district.

When total area of forest degradation and deforestation is divided between the four forest estate categories (see Figure 12), most deforestation occurred in estates designated as APL other use areas and production forest. As discussed above, forest estates under the APL and production forest categories can be cleared legally, and forest clearing in these areas is considered planned deforestation. Figure 12 shows forest degradation occurred primarily in production forest estates, which is unsurprising given production forest is allocated for forest concessions, including selective logging concessions (HPH, IUPHHK-HA) for harvesting timber. Though almost 55% of forest degradation took place in production forest, a quarter of total forest degradation occurred in protection forest, namely areas where all kinds of degradation resulting from human activity should be prohibited. The implication of degradation in protection forest is its failure to protect the functions it is supposed to preserve, such as water provision and flood prevention, carbon storage, biodiversity preservation and many others.

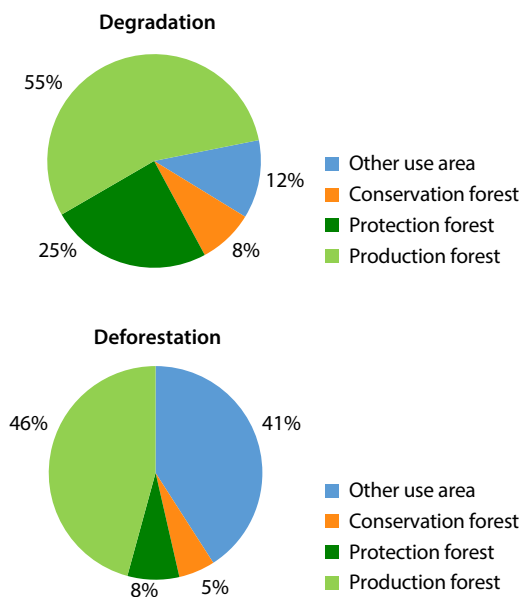


Figure 12. Percentages of total deforestation and forest degradation in different forest estate categories in Indonesia

Source: MoEF 2018

Although the analysis shows high levels of degradation in protection forest, it is worth noting that the forest estate category data used in the analysis was downloaded from the MoEF Geoport website in August 2018, while the forest degradation and deforestation data were sourced from MoEF land cover data spanning the 1990-2017 period. Unlike forest degradation and deforestation data, where dynamics can be monitored over time, the forest estate category data represented only the prevailing situation in 2018. Consequently, the results shown in Figure 12 do not perfectly describe the actual historical dynamics of forest degradation and deforestation that occurred in each category of forest estate. In many cases it is possible that estates with production forest status in 2018 might previously have been protection or conservation forest. What had been conservation forest estates in the early 2000s may have become production forest by 2018 if their conservation purpose was no longer considered attainable. As a result, total deforestation and forest degradation may be greater or lower in different estate categories during different time periods.

According to Government Regulation No. 104/2015, two kinds of changes in forest estate status are possible. Firstly, there is *Perubahan Peruntukan Kawasan Hutan* or forest estate allocation change, where conservation forest, protection forest or production forest can change to become non-forest estate (i.e. other use areas). Secondly, there is *Perubahan Fungsi Kawasan Hutan* or forest estate function change, where, for example, conservation forest can become production forest, or protection forest can become conservation forest, or vice versa. These two kinds of forest estate status changes explain how the total areas of each land/forest estate category can change over time.

2.3 Drivers of deforestation and forest degradation

In the previous edition, the underlying drivers of deforestation and forest degradation (Indrarto et al. 2012) were as follows: (i) the government’s development interests and reliance on natural resources from forests to support the economy; (ii) the gap between timber demand and supply; (iii) market demand for forest-sourced commodities

such as pulp and palm oil; (iv) the dynamics of local politics that emerged with the onset of regional autonomy; (v) economic dependence on other countries; (vi) tenure; and (vii) population growth and transmigration. As circumstances have evolved, this edition identifies deforestation and forest degradation being caused by both direct and indirect drivers. Indirect drivers are primarily: (i) pressure for economic growth; (ii) the continued issuing of forest, oil palm plantation and mining concession licenses; (iii) illegal logging; and (iv) infrastructure development.

Direct drivers

Direct drivers of deforestation refer to activities that result in new land cover replacing forest cover after deforestation takes place. These drivers usually result in permanent deforestation rather than transitional land cover, such as scrub, grasslands or bare land. MoEF land cover data consisting of 23 land cover classes with an observation period from 1990 to 2017, allowed an analysis of deforestation drivers over time. Figure 13 shows drivers of deforestation that occurred during the 1990-2016 period. The analysis was done by recording land cover in 2017 in areas that experienced deforestation between 1990 and 2016. This was done to eliminate transitional land cover and determine true direct drivers.

The analysis shows the main drivers of deforestation to be estate crops, mixed gardens and timber plantations, contributing 6 million ha (46%), 3.9 million ha (30%) and 1.5 million ha (12%) respectively.

MoEF (Appendix 2), defines “estate crops” as a land cover class comprising all forms of plantation areas, both large-scale plantations managed by companies and small-scale plantations managed by individual smallholders. This land cover class also combines all types of commodities, including oil palm, rubber, cacao, coffee and others. “Mixed gardens” comprise all types of farmed land crisscrossed with bushes and planted with various trees, often resulting from slash and burn practices. “Timber plantations” or *Hutan Tanaman Industri* are primarily acacia plantations producing timber for the pulp and paper industry.

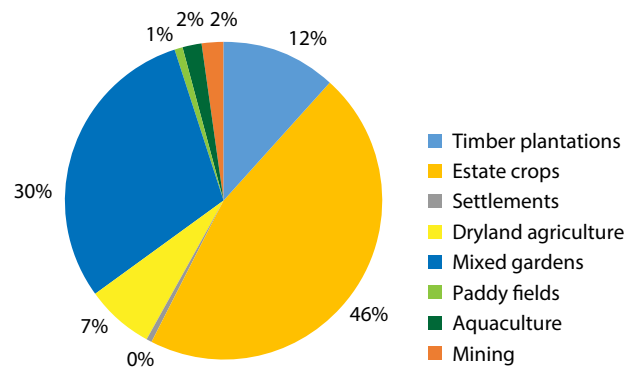


Figure 13. Main drivers of deforestation, 1990-2016

Source: MoEF 2018

In the first country profile by Indrarto et al. 2012, oil palm, mining, illegal logging, forest fires and swidden agriculture were among the drivers of deforestation during the 1985-2010 period. These deforestation trends have continued, as shown in Figure 13, where estates crops, mining and mixed gardens resulting from slash and burn practices were recorded as drivers of deforestation during the 1990-2016 period.

Forest Watch Indonesia reports from 2013 and 2018 suggest that during the 2009-2016 period, timber and oil palm plantations were major drivers of deforestation in North Sumatra, East Kalimantan and North Moluccas provinces. This finding is probably representative for Indonesia as a whole. It is evident that the multitude of permits issued during this period, such as IUPHHK-HA, IUPHHK-HTI, HGU oil palm plantation and mining concession licenses, contributed to forest degradation and deforestation in Indonesia. Overlapping concession areas were also found to contribute to deforestation in the three provinces, suggesting that poor land governance in Indonesia has contributed indirectly to deforestation and forest degradation rates across the country.

A study of spatial data use in monitoring deforestation dynamics in Indonesia (Austin et al. 2019) confirmed that large-scale oil palm and timber plantations were the primary drivers of deforestation in Indonesia during 2001-2016. Around 40% of total deforestation occurring across Indonesia during the study period, equal to 3.3 million ha, resulted from expansion of large oil palm and timber plantations. Notably, the study found a shifting trend in deforestation drivers. In the 2000s, more than half of all deforestation was caused by oil palm plantations.

This fell to a quarter in the 2014-2016 period. The study also suggests small-scale agriculture or smallholder plantations also contributed to deforestation in Indonesia though less significantly than large-scale plantations. However, the study also emphasized a direct link between them, as smallholder oil palm plantations were commonly situated around large-scale plantations, feeding the production of their large-scale counterparts (Mosnier et al. 2017).

Indirect drivers of deforestation

The underlying driver, pressure for economic growth, has not changed, and since the first country report, has only intensified. In fact, the green growth policy (i.e. biofuel and renewable energy) has led to a rising global demand for agricultural crops and has driven oil palm plantation expansion through forest conversion. Thus, the biofuel or energy policy can be considered an indirect driver of deforestation in Indonesia. In contrast to direct drivers, underlying causes, commonly known as indirect drivers, are relatively hard to assess because they comprise complex causalities. Consequently, a thorough observation of the inter-relatedness of factors at a larger level is necessary. For this reason, this section will mainly discuss studies and reports containing analyses of indirect causes of deforestation in Indonesia. We identified three main underlying causes of deforestation in Indonesia: national targets for specific export products, international policy and agriculture product prices, and national development plans.

In its 2018 report, Forest Watch Indonesia revealed that deforestation in Indonesia was mainly caused by the continuous issuing of plantation forest, oil palm plantation and mining concession permits. In the 1990s, Indonesia's timber industry grew rapidly with timber harvesting shifting from natural forest to timber plantations to meet national targets. Approximately USD 5.5 billion was generated from Indonesia's timber industries in 1994, contributing 15% of state revenues (Sunderlin and Resosudarmo 1997). This drastic increase in timber production entailed a huge demand for land, as increasing numbers of forest concession permits for timber plantations (*hutan tanaman industri* or HTI) were issued. Between 2009 and 2013, timber plantations accounted for 10% of total deforestation in Indonesia (Forest Watch Indonesia 2018).

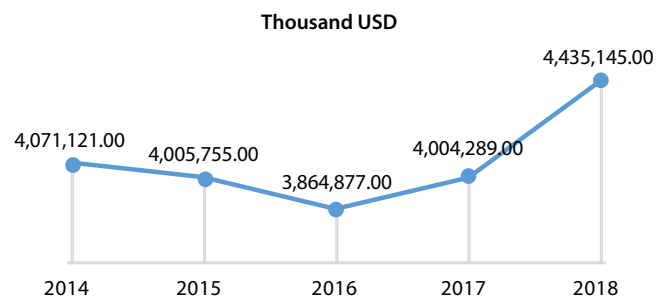


Figure 14. Indonesian timber exports, 2014-2018

Source: ITC 2019

In addition, illegal logging and misconduct in HPH and IUPHHK-HA selective logging concessions has contributed significantly to forest degradation in recent years, especially in the eastern part of Indonesia. Figure 11 illustrates how the rate of forest degradation in Papua has reached worrying levels. A 2005 report investigating illegal logging revealed that every month around 300,000 m³ of timber was smuggled from Papua to China (Telapak and Environmental Investigation Agency 2005). Findings from a more recent investigation by TEMPO magazine and Yayasan Auriga estimated that illegal logging in Papua alone contributed to losses of IDR 6.1 trillion, equal to USD 427 million, in state revenue in just three years (TEMPO 2018). The report also found the losses had resulted from corrupt government and weak forest governance at the national level combined with high global demand for high-quality Indonesian timber. Figure 14 shows Indonesian timber exports from 2014 to 2018.

In forest rich countries with low levels of development, deforestation is very likely triggered by agriculture export targets (Leblois et al. 2017), as was the case in Indonesia in the 1990s and 2000s. Indonesia's national targets for specific agriculture and forest commodities followed global trends or policies on agriculture demand. New European Union biofuel and climate change mitigation policies were strongly linked to increases in global demand for agriculture commodities, causing land-use change and deforestation in other countries like Indonesia (Geist and Lambin 2002; Busch and Ferretti-Gallon 2017; Siciliano et al. 2017). Rising prices for agriculture commodities such as palm oil, rubber, coffee and cacao in the 1990s drove significant expansion of large-scale plantations,

leading to growing demands for land and causing deforestation in Indonesia (Brun et al. 2015). It is also important to note that in 1998, Indonesia experienced economic and political turmoil with the Asian financial crisis and the fall of Suharto's New Order regime. Indonesia's currency plummeted in value leading to an economic crisis in the ensuing years. In developing countries the devaluation of national currencies has proven to increase domestic prices for agriculture products, causing additional demand for land and deforestation (Verburg et al. 2014).

Development in Indonesia has inevitably caused significant changes in land use and deforestation. Infrastructure development, road building, construction and the creation of agricultural land were undertaken to boost the national economy and achieve the national goal of prosperity in every part of Indonesia. Since the 1970s, the transmigration program has aimed to show non-Java-centric development (Gaveau et al. 2009). Studies have also found that road construction contributed to deforestation in Kalimantan and Sumatra. According to Miyamoto (2006), road construction reduced transportation costs and the transmigration program altered indigenous peoples' land tenure, both leading to further forest clearing. Alamgir et al. (2017) also found that road construction, coupled with the transmigration program, impacted on social conditions for locals, triggering forest degradation.

The decentralization era following the fall of the New Order regime gave subnational governments more freedom to manage their natural resources, including forests. This changed Indonesia's forest governance in many ways. Numerous forest logging permits requested by subnational governments were issued by the central government (Arnold 2008; Suwarno et al. 2015). Uncontrolled concession permit issuance, combined with road construction and development targets, inevitably led to drastic forest loss and degradation in Indonesia.

2.3.1 Mitigation potential

Forest status and the moratorium on concession permits

The Forest Moratorium, which halts new concessions in primary forest and peatlands, was first introduced for a period of 2 years by the previous president in 2011. It was renewed in

2013, and again by the current president in 2015. In 2019, the moratorium was made permanent. Areas closed for concessions and/or clearing are based on the Indicative Map for the Moratorium on New Concession Permits (*Peta Indikasi Penundaan Pemberian Izin Baru* or PIPPIB) first released in 2011. This map is updated every six months to revise moratorium areas.

The moratorium aims to reduce forest degradation and deforestation rates in Indonesia, especially in high carbon stock areas such as primary forest and peatlands. It constitutes part of Indonesia's commitment to reducing emissions by 2020. The moratorium takes effect in three target areas: primary forest in non-forest estate (APL or other use areas), forest estate (conservation forest, protection forest and production forest) and peatlands.

Observations of forest degradation and deforestation in different regions across Indonesia since 2011, when the moratorium came into effect, are shown in Figures 15 and 16. Consistent with the high forest degradation rate in Papua discussed above, the majority of forest degradation in moratorium areas occurred in Papua, followed by Sumatra and Sulawesi in second and third place. Total forest degradation in moratorium areas across Indonesia reached almost 1.4 million ha, and per 2018 the moratorium had yet to succeed in halting forest degradation in Indonesia. Despite its apparent failure to slow down forest degradation, the moratorium did lead to a reduction in deforestation in the six-year period to 2017, with total deforestation of only 1900 ha occurring in moratorium areas, mostly in Kalimantan and Sumatra. MoEF claims the moratorium has succeeded in reducing deforestation by 38% (MoEF 2019).

Figures 17 and 18 illustrate forest degradation and deforestation in different moratorium target areas. Most forest degradation occurred in forest estates (conservation forest, protection forest and production forest) regardless of the moratorium policy. Total forest degradation in areas affected by the moratorium reached 865,699 Ha. An additional 426,707 Ha of primary forest was degraded in 'other use areas'. Despite high levels of forest degradation in the other two moratorium categories, the policy seems to have been successful at halting degradation and deforestation in peatland areas across Indonesia (see Figures 17 and 18).

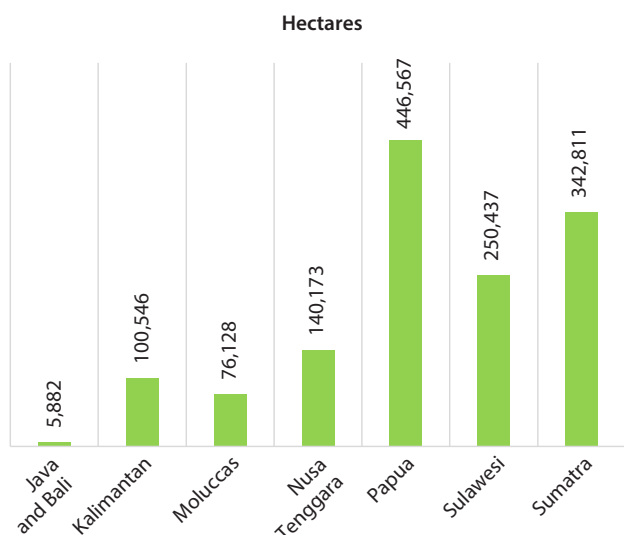


Figure 15. Forest degradation in moratorium areas in different regions of Indonesia, 2011-2017

Source: MoEF 2018

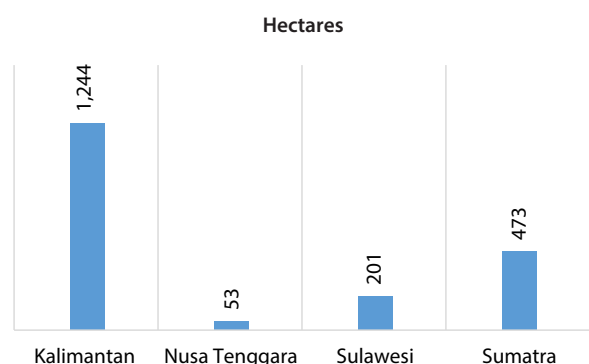


Figure 16. Deforestation in moratorium areas in different regions of Indonesia, 2011-2017

Source: MoEF 2018

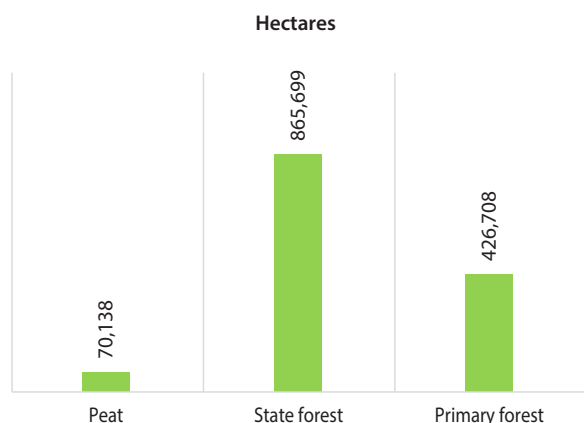


Figure 17. Forest degradation in different types of moratoria, 2011-2017

Source: MoEF 2018

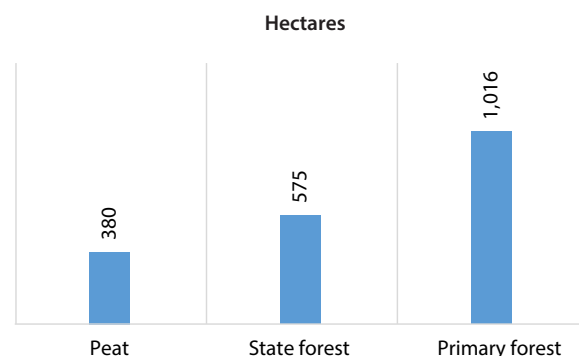


Figure 18. Deforestation in different types of moratoria, 2011-2017

Source: MoEF 2018

Indonesian Timber Legality Assurance System (Sistem Verifikasi Legalitas Kayu or SVLK)

In 2009, the Indonesian Timber Legality Assurance System (*Sistem Verifikasi Legalitas Kayu* or SVLK), was created and launched in an attempt to halt illegal logging. The system was initially designed for self-declaration and mainly supported the administration of timber sourced from state forest estate. Its aims were to trace timber back to its origin and prevent timber laundering, where illegal timber enters legal supply chains and is certified and traded as legal timber.

To ensure timber traceability, SVLK comprises a Sustainable Production Forest Management Information System (*Sistem Informasi Pengelolaan Hutan Lestari* or SIPHPL). SIPHPL consists of three information systems developed to accommodate different parts of the timber supply chain. The three systems are the Forest Product Administration Information System (*Sistem Informasi Penatausahaan Hasil Hutan* or SIPUHH), the Industrial Raw Material Fulfillment Plan Information System (*Sistem Informasi Rencana Pemenuhan Bahan Baku Industri* or SIRPBBI) and the Timber Legality Information System (*Sistem Informasi Legalitas Kayu* or SILK). Of the three systems, only SIPUHH is directly linked to timber harvesting by upstream industries in state forest estate. Accordingly, SIPUHH plays an important role in monitoring sustainable timber harvesting in state forest and preventing illegal logging.

Indonesian Law No. 18/2013 defines illegal logging as “Illegal timber supply chain activities, which include logging, processing, transporting,

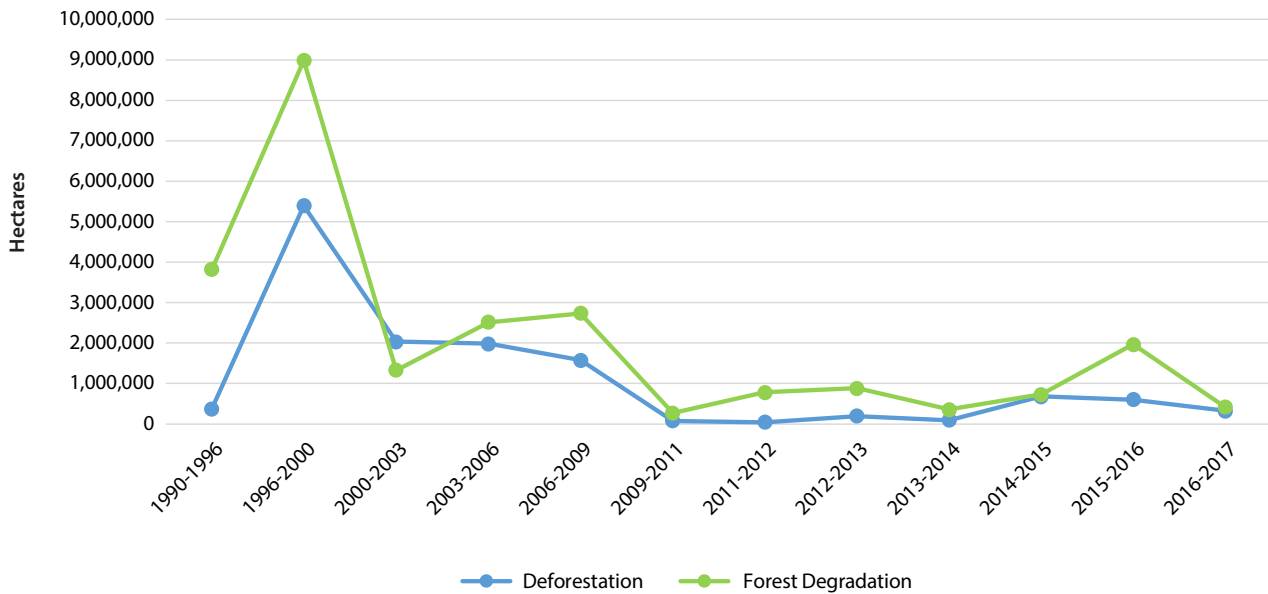


Figure 19. Total area of deforestation and forest degradation in Indonesia, 1990-2017

Source: MoEF 2018

storing, marketing, buying and selling, and utilization of illegal timber”. This also includes “logging within a forest estate without a valid permit or in a manner not in accordance with the permit requirements”. Referring to this definition, timber harvested from areas without forest concession permits is considered illegal. Consequently, planned deforestation is not considered an illegal logging activity, as it occurs in concession areas in accordance with permit requirements.

Figure 19 shows the total area of forest degraded and converted to non-forest land cover. It indicates that deforestation and forest degradation decreased after 2009, except for a peak in 2015-2016. Does this decrease have a strong correlation to SVLK? The answer is probably no. Various reports have revealed that illegal logging cases are still occurring across Indonesia despite the

system. In May 2010, police in Sorong, Papua confiscated 4200 m³ of merbau (*Intsia bijuga*) logs from a company holding a selective forest concession permit (*Hak Penguasaan Hutan* or HPH), and a month later in June that year, more than 5000 m³ of merbau timber was confiscated in Bintuni (Telapak and Environmental Investigation Agency 2010). In both cases, the timber was being transported without accompanying official documentation and permits, and was therefore considered illegal. A recent TEMPO investigation report (TEMPO 2018) revealed that SVLK and poor forest governance in Papua had caused state revenue losses up to IDR 6.1 trillion, equal to USD 453 million, in just three years. These findings show that despite SVLK being established and certified to comply with the EU FLEGT system in 2016, it still fails to combat illegal logging and halt deforestation and forest degradation in Indonesia.

3 Institutional, environmental and distributional aspects

Forest governance in Indonesia is often more defined through its structure, the institutional arrangements within the bureaucracy than its functions. This section describes these arrangements and discusses how they have shaped governance since the last country profile in 2012.

3.1 Governance in the forest margins

Over recent decades, Indonesia has played an increasingly active role in forestry-related international forums and agreements. Indonesia joined the international arena and agreements including the United Nations Forum on Forests (UNFF) and UNFCCC to combat climate change impacts and improve overall forest and natural resources governance. The details of Indonesia's involvement on the international stage are detailed below.

3.1.1 Broader context: Global governance aspects and international agreements

United Nations Forum on Forests (UNFF)

Indonesia joined the UNFF when it was established in 2000 (Rusli and Justianto 2007). Over the years, there has been a change in direction for UNFF from policymaking to facilitating implementation. As a follow through, all country members were expected to submit their Voluntary National Contributions (VNC) to show their commitments to global goals. Indonesia was among those countries delivering commitments during the 13th UNFF session in June 2018 in New York, where the country representative, Dr. Agus Justianto from MoEF pledged to curb deforestation by 0.92 million Ha/year in line with the country's Nationally Determined Contribution (NDC) submitted to UNFCCC in 2016. During the same event,

the country also pledged to implement social forestry and agrarian reform schemes allowing access for local communities to secure benefits from forests to improve their livelihoods, and to resolve land conflicts. In addition, Indonesia also committed to sustainable forest management, which includes ensuring the legality for all forest-based products through certification and increasing the extent of conservation areas.

United Nations Framework Convention on Climate Change (UNFCCC)

Indonesia's engagement in international climate change policies through UNFCCC has also become more apparent over the years. Indonesia's involvement in UNFCCC began in June 1992 after the country became one its signatories. However, it took two years for Indonesia to ratify the convention through Law No. 6/1994 on Ratification of the UNFCCC (FORDA 2009). Indonesia has attended the Conference of the Parties (COP) every year since 1995 to implement the framework. In 1997, the Kyoto Protocol was established, and Indonesia ratified it the following year (FORDA 2009).

In 2007, Indonesia hosted COP 13 in Bali. The event recognized the role of forests in reducing carbon emissions, and a scheme aimed at reducing emissions from deforestation and forest degradation (REDD+) entered international discussions. In response, Indonesia launched its REDD+ roadmap prepared by the Indonesian Forest Climate Alliance (IFCA), which resulted in the Bali Road Map and Bali Action Plan. The documents provide a work plan that requires the application of a national REDD+ approach with subnational implementation as well as application of both market and non-market REDD+ financing (MoF 2011).

Indonesia affirmed its contribution to reducing GHG emissions during COP 15 in Copenhagen in 2009, following the country's pledge at the G20 meeting in Pittsburgh that year, where then President Yudhoyono committed to reducing GHG emissions by 26% of business as usual levels by 2020 unilaterally, and by 41% with international assistance. Other COPs highlighting Indonesia's commitment to reducing GHG emissions were COP 21 in Paris and COP 24 in Katowice, Poland. At COP 21, Indonesia submitted its first Intended Nationally Determined Contribution (INDC) under the Paris Agreement. In COP 24, where guidelines for implementing the Paris Agreement were discussed, Indonesia emphasized the importance of REDD+ in achieving forestry sector NDC mitigation targets.

Nationally Determined Contribution (NDC) | UNFCCC

At COP 21, the Paris Agreement (Article 4, paragraph 2) asked each party to strive for a sustainable future through low-emissions development and climate resilience reflected in their NDC submissions to UNFCCC. Indonesia's INDC document underlines the country's commitments to limiting the rise in global temperature to 1.5°C, and achieving net zero emissions by the second half of this century. Further elaboration of the document is outlined in the first Nationally Determined Contribution (NDC) submitted to UNFCCC in November 2016. In its NDC, Indonesia increased its unilateral emissions reduction commitment by an additional 3% (from 26% to 29%) of emissions under a business as usual (BAU) scenario by 2030. Indonesia then ratified the Paris Agreement through Law No. 16/2016 dated 25 October 2016.

To operationalize the Paris Agreement, the Katowice Climate Package was agreed at COP 24 to help the parties with important procedures and mechanisms. This guideline acts as a set of 'global rules' to ensure Paris Agreement emissions reduction goals can be measured accurately. In addition to a transparency framework, the Katowice Climate Package also provides guidelines explaining the processes involved in setting new financial targets from 2025 onwards following on from the current 2020 target of mobilizing USD 100 billion annually. The Katowice Climate Package also provides narratives on how to

conduct a Global Stocktake (GST) of climate action effectiveness in 2023 as well as methods for assessing progress on the development and transfer of technology. Such guidelines were necessary given climate actions were still guided by the pre-2020 Kyoto Protocol (The Economic Times 2018).

Convention on Biological Diversity (CBD)

The CBD was an ad hoc working group of experts on biological diversity created by UNEP in 1988, later established as a Convention in 1992 and entering into force in 1993 (CBD 2020). The convention objectives are biological diversity conservation, the sustainable use of biological diversity components and benefit sharing from the fair and equitable utilization of genetic resources (CBD 2020). Indonesia ratified the CBD through Law No. 5/1994, and various pieces of legislation on biodiversity management have subsequently been enacted.

Indonesia is one of the most biodiversity rich countries in the world. As an archipelago, its land area occupies only 1.3% of the world's land surface, yet the unique ecosystems of its many islands are inhabited by a diverse array of species. Indonesia's commitment to conservation is apparent from its designation of large areas as national park or protection forest. Nevertheless, the country's biodiversity remains under threat from pollution, climate change, forest fires and resource exploitation through illegal logging and trade.

Led by the National Development Planning Agency (Bappenas), the Indonesian Institute of Sciences (LIPI) and MoEF with support from the United Nations Development Programme (UNDP), Indonesia updated its Biodiversity Strategy and Action Plan (IBSAP). IBSAP aims to provide a reference for program implementation on the ground and comprises the principal guidelines for national biodiversity conservation. IBSAP is intended to serve as a key reference document for program implementation and cross-sectoral and cross-level activities involving multiple stakeholders. It harmonizes actions of other international treaties, including the Aichi Biodiversity Targets, which Indonesia has ratified. IBSAP also examines the relationship between biodiversity and climate change. Many of its adaptation and mitigation activities are designed for decentralized implementation over the 2015-

2020 period. Meanwhile, implementation of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) and its derivative instruments are carried out at both national and local levels.

A National Biodiversity Information Network (NBIN) was established with support from LIPI. This national entity's mandate is to be a center for reference on biodiversity conservation, research and use. The network also connects through the Indonesia Biodiversity Information Facility (InaBIF) portal with the global biodiversity information network. The portal serves as a knowledge management tool for genetic resources and traditional knowledge in Indonesia, storing, managing and integrating relevant data and information. A national Biodiversity Clearing House (CHM) is being enhanced all the time. It is a platform for disseminating information on IBSAP monitoring, evaluation and implementation from 2015-2020.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival (cites.org 2020). Indonesia ratified the convention through Presidential Decree No. 43/1978 (Ministry of Foreign Affairs 2013).

Indonesia holds a strategic role as a member of the CITES Standing Committees (both the Animals Committee and as an alternate member of the Plants Committee) and the CITES Tree Species Advisory Committee representing the Asia region. There are two bodies in charge of CITES: the Ministry of Environment and Forestry is the national focal point for management authority, while the Indonesian Institute of Sciences (LIPI) is the national focal point for scientific authority. Institutional changes occurred after the Ministry for Environment and the Ministry of Forestry merged in 2014 to become the Ministry of Environment and Forestry with enhanced law enforcement capacity now covering green forestry-related issues (encroachment, illegal timber trade, illegal wildlife trade) and brown issues

relating to pollution. Subsequently, under the auspices of MoEF, the Directorate General for Forest Protection and Nature Conservation was upgraded to become the Directorate General for Environmental and Forestry Law Enforcement, equal to other DGs under MOEF, with greater authority and recognition of its importance.

Law No. 5/1990 on Conservation of Biological Resources and their Ecosystems was the principal legislation for CITES implementation. Yet it took more than a decade to enact the necessary subsidiary implementation regulations. Despite assessments by CITES to ensure national policies were sufficient for its implementation, wildlife traffickers continue to operate. In 2018, a window of opportunity opened as the Indonesian legislature submitted the law for review. Mongabay (2018) reported that "the latest draft of the submission does make some moves toward that goal (halting illegal wildlife trafficking): it would ban the trade in species not mentioned on Indonesia's list of protected species but regulated by CITES". However, the latest draft has failed to include novel trafficking platforms facilitated by the Internet and has not addressed the issue of selling parts of endangered species such as bird of paradise souvenirs in Papua. In addition, WCS Indonesia highlighted the issue of new terms and jargon used in the draft blurring what wildlife crime may constitute, thus making it harder to crack down on the illegal trade in animals and plants.

FLEG and FLEGT (Forest Law Enforcement, Governance and Trade)

Established in 2003, the Forest Law Enforcement, Governance and Trade (FLEGT) – Voluntary Partnership Agreement (VPA) is a legally binding trade agreement between the European Union and timber-producing countries outside the EU. Through the VPA, the EU aims to ensure two essential issues: first, that timber and timber products entering the EU originate from legal sources, and second, preventing illegal logging in timber-exporting countries through improved forest sector regulation and governance (EU FLEGT Facility 2020).

Illegal logging has been a problem in Indonesia for decades. It reached its peak in 1998-2000 period at the height of the Asian Economic Crisis. Since 2001, major efforts to address the problem have

been initiated at the global level to ensure timber legality and improve forest governance and trade. Indonesia joined these efforts through bilateral agreements with major timber importers beginning in 2001. As a result, an operator-based timber control system was developed for all Indonesian timber exports, building on a mandatory third-party certification approach for legality and sustainability. The system, called SVLK, became the basis for the timber legality assurance system under Indonesia's Voluntary Partnership Agreement (VPA) with the European Union (EU). The VPA was signed in 2013, ratified and entered into force the following year.

In September 2013, the Government of Indonesia and the European Union signed a partnership agreement (Jakarta Post 2013) recognizing SVLK as an international timber legality verification system. Many national-level initiatives were implemented, such as establishing joint security operations (*Operasi Hutan Lestari* or OHL) for combating illegal logging; an anti-money laundering approach to tackle illegal finance in the forestry sector; and expanding timber plantations to increase timber supply (Luttrell et al. 2011).

The VPA aims to reduce illegal logging by ensuring timber and timber products entering the European Union have proof of legal harvesting. This implies that if operators located in an EU country are buying FLEGT licensed products, then no further due diligence on timber legality will be required (Obidzinski et al. 2014).

Indonesia recognizes three voluntary private forest certification schemes: the Forest Stewardship Council (FSC), the Program for the Endorsement of Forest Certification (PEFC) and the Indonesian Ecolabeling Institute (*Lembaga Ekolabel Indonesia* or LEI), as well as the mandatory state-based timber legality verification system (SVLK), mentioned above. The Forest Stewardship Council (FSC) was established in 1993 by environmentalist and eco-minded business groups. Shortly after, a localized version named *Lembaga Ekolabel Indonesia* (LEI) was launched. As FSC led the globally recognized timber sustainability and legality standard, it was viewed as a barrier for LEI to progress especially among some high ranking officials in MoF and Indonesian forestry NGOs (Luttrell et al. 2011). This sentiment influenced the development of the LEI standard, which would become a standalone standard with a spectrum compatible with the internationally accepted FSC.

The relationship between LEI and FSC was initially quite rocky, and despite efforts to cement collaboration by co-developing certification standards, the relationship ended due to the incompatibility of several principles under the LEI standard. Although there were efforts to achieve mutual recognition between the two schemes with joint FSC and LEI certification, these doubled assessment costs and led to unsuccessful cooperation (Innes and Hickey 2005).

FLEGT became mandatory in January 2013, and applied to the wood panel, woodworking and pulp and paper industries (Obidzinski et al. 2014). Certification for sawmill, furniture and handicraft businesses only became mandatory two years later in January 2015. Progress on SVLK compliance has been much slower for small-scale than for large- and medium-scale companies. Underlying causes limiting progress in implementing mandatory SVLK certification are contradictory provisions in Ministry of Trade and Ministry of Environment and Forestry regulations, and the lack of a sound business case, appropriate expertise and access to markets (Maryudi et al. 2015).

The differences between the various certification schemes are shown in Table 9 below.

Table 9. Comparison of forest certification and timber-legality verification schemes in Indonesia

| Key features | Ranking | | | |
|--|---------|------|------|------|
| | 1 | 2 | 3 | 4 |
| Ease of certification | SVLK | LEI | FSC | PEFC |
| Complexity | FSC | PEFC | LEI | SVLK |
| Quality of standard | FSC | PEFC | LEI | SVLK |
| Preferred by timber producer customers | SVLK | FSC | PEFC | LEI |
| Preferred by end consumers | FSC | PEFC | SVLK | LEI |
| Helps industries and logging companies | FSC | LEI | PEFC | SVLK |
| Good image branding | FSC | PEFC | SVLK | LEI |
| Required/needed in Indonesia | SVLK | FSC | LEI | PEFC |
| Applicability of scheme to Indonesia | LEI | SVLK | FSC | PEFC |
| Preferred by stakeholders | SVLK | FSC | PEFC | LEI |

Source: Wibowo et al. 2018

Timber legality compliance in non-EU markets

One of the main importers of Indonesian timber is China. China has become a major global exporter of wood products, regardless of their legality. Data indicates that the movement of illegal timber from Indonesia to China increased significantly during 2010–2013 (Chatham House 2014). Timber export value data for 2010–2014 showed export volumes increased by 3% in 2010 to 15% in 2014 (International Trade Center n.d.). With the United States and the EU now enforcing legality certification schemes, exporting countries have felt pressure to adhere to similar standards.

In early 2008, China formulated a nationwide approach to legality verification, and officially launched the Chinese Timber Legality Verification System in December 2009. The system drew from China's extensive licensing systems to establish a chain of custody for all legally verified forest products in the Chinese forestry sector (Sun and Canby 2010). The country also initiated more MoUs/agreements with other forestry product consuming markets including the US, EU, Australia and Japan with more formalized commitments and actionable items, such as enhancing communication around legal compliance challenges to strengthen the first Sino-Indonesian agreement (Hurd 2011).

Yet, although the two countries signed a bilateral agreement on legal timber trading (which ended in 2015), the illegal timber trade has persisted. Illegal timber traffickers often employ various *modus operandi* including: exporting without proper documentation by transporting logs in loading vessels with direct access to the high seas (Puspitasari et al. 2016); falsifying customs documents for illegal timber; and using documents from Papua New Guinea to export illegal *merbau* wood originating from Indonesia. Timber frequently smuggled out of Indonesia includes ebony, *merbau* and *sonokeling* due to their high value in China. The selling price for *merbau* in the domestic market is around USD 300 per m³ while in China it sells for twice that amount. Current loopholes suggest the Ministry of Forestry and Environment needs to improve coordination with the authorities and other ministries and agencies such as the Indonesian Chamber of Commerce, Ministry of Trade, Customs and Excise and the Corruption Eradication Commission.

Amsterdam Declarations

Launched in 2015, the Amsterdam Declarations Partnership aims “to lend public sector support to the implementation of existing private and public sector commitments to achieve fully sustainable and deforestation free agro-commodity supply chains in Europe by 2020” (Amsterdam Declarations Partnership 2016). This non-legally binding agreement covers deforestation and sustainable palm oil issues and is intended to stimulate commitment and progress from private sector businesses working with agriculture commodities associated with deforestation (EOS 2018). The Amsterdam Declarations focus primarily on cocoa, palm oil and soya, without neglecting actions on other commodities, such as natural rubber (Amsterdam Declarations Partnership 2018).

Joined by Denmark, France, Germany, Italy, the Netherlands, Norway and the United Kingdom, as well as private sector operators, producer country stakeholders and national commodity supply chain initiatives, the Amsterdam Declarations Partnership is built on the New York Declaration on Forests' commitments (Proterra Foundation n.d.). In December 2016, its four main strategic lines were defined as follows: (i) facilitation for European and EU action on climate, deforestation, and trade; (ii) stimulation for the global value chain approach for agricultural commodities (in particular palm oil); (iii) enhancement of dialogue between major consumer and producer countries; and (iv) enhancement of transparency and use of voluntary corporate social responsibility (CSR) reporting. Indonesia is mentioned in the explanations of the first and third strategies in regard to its strategic position in global agronomy trading. While the first strategy refers to the example of a joint communique of the President of the European Commission and the President of Indonesia, which serves for establishing specific reference to the FLEGT Voluntary Partnership Agreement and enhancing cooperation on sustainable palm oil, the third strategy points out the need for effective dialogue between Europe and producer countries.

In the most recent status report, the Amsterdam Declarations Partnership highlights Indonesia's role as a producer country that contributes significantly to the palm oil and cacao markets (Support Unit AD Partnership and Mekon Ekology 2018). Indonesia has been involved in a dialogue on improving and enforcing sustainable supply chains for palm oil and cacao, following European Union standards.

Bonn Challenge

Established in 2011, the Bonn Challenge is a non-binding international declaration that aims to reduce and reverse land degradation to pursue the restoration of ecological integrity and enhance human well-being (Dave et al. 2017). In 2017, the International Union for Conservation of Nature and Natural Resources (IUCN) described the Bonn Challenge as a “vehicle for implementation of national priorities (water and food security, disaster risk reduction and rural development), and international commitments” such as the UNFCCC REDD+ objective. The Bonn Challenge is also intended to be an implementation platform for the Convention on Biological Diversity (CBD) Aichi Target 15 and Rio+20 Land Degradation Neutral Goal (Bonn Challenge n.d.).

Progress with the Bonn Challenge is monitored through its in-house Barometer (<https://infoflr.org/bonn-challenge-barometer>). The online version of the Barometer currently provides data from only 5 countries where pilot projects are taking places (Brazil, El Salvador, Mexico, Rwanda and The United States). Since its establishment, Bonn Challenge progress has been reported twice to the public; in 2017 and 2018. While the 2017 report emphasizes the early milestones of the Forest Landscape Restoration (FLR) program with cases from Brazil, El Salvador, Mexico, Rwanda, and the United States, the 2018 edition disseminates the quintessence of the progress and lessons learned for further development.

The FLR is an initiative that ties its endorsers to a long-term process of restoring ecological functions and well-being in deforested and degraded lands. The FLR program has a number of guiding principles: (i) restore functionality; (ii) focus on landscapes, (iii) allow for multiple benefits; (iv) leverage a suite of strategies; (v) involve stakeholders; (vi) tailor strategies to local conditions; (vii) avoid further reduction of natural forest cover or other natural ecosystems; and (viii) manage adaptively (Dave et al. 2017). The FLR also has a restoration options framework determined by land use and land sub-type categories.

For the declaration, Indonesia is represented by Asia Pulp & Paper Group (APP), a South Sumatra and Java-based group of companies that focuses on manufacturing tissue, packaging and paper (APP 2015). In 2015, APP committed to a 1,000,000-ha restoration target by 2020, while the total national restoration target was 29,294,990 ha, with a potential economic benefit of approximately USD 314 million and potential climate benefit of 0.09 Gt CO₂ sequestered (IUCN n.d.). However, as of May 2020 there had been no further update on progress made by APP.

FLR success factors are policies and institutional arrangements, financial flows, technical planning and monitoring (Dave et al. 2018). Several studies have criticized implementation of the Bonn Challenge and highlighted its lack of ambitious goals to consider natural solutions and pro-anthropocentric development. According to Temperton et al. (2019), the Bonn Challenge has remained focused on trees and forest, despite increasing evidence of non-forest ecosystems such as savanna offering significant restoration potential for both biodiversity and climate mitigation. This runs counter to the IUCN claim that the Bonn Challenge’s FLR is an approach that not only entails planting trees and other woody plants, but also aims to deliver a wider transformative process of forest landscape restoration (Dave et al. 2017). Further criticism can be found in the work of Lewis et al. (2019), which is pessimistic about plantations being the most popular choice for restoration plans with 45% of all commitments citing the planting of extensive monocultures as profitable enterprises (Lewis et al. 2019). Lewis et al. also argue that growing crops on two-thirds of the area committed to global reforestation for carbon storage should be reconsidered as: (i) on average, plantations hold less carbon than land cleared for them; (ii) the drastic rise of plantation area could undercut their profitability – the reason that nations are prioritizing them; and (iii) ‘forest restoration’ is misinterpreted by policymakers.

New York Declaration on Forests

Following evaluation, the Bonn Challenge mission was reiterated through the New York Declaration on Forests (NYDF) declared in September 2011. Like the Bonn Challenge, the NYDF is a voluntary and non-binding international declaration. NYDF endorsers committed ambitiously to ending natural forest loss by 2030, with a 50% reduction by 2020. Per August 2019, NYDF supporters consisted of: 41 national governments, 21 subnational governments, 60 multinational companies, 22 groups representing indigenous communities and 65 non-governmental organizations

(NYDF Assessment Partners 2019). Stakeholders from Indonesia endorsing the NYDF comprise the national government, provincial governments (Aceh, Central Kalimantan and West Kalimantan), companies (Asia Pulp and Paper and Asian Agri) and the Indigenous Peoples Alliance of the Archipelago (AMAN).

Chapter 2 of the NYDF Declaration and Action Agenda, updated in July 2017, says Indonesia has been reforming land use policies, customary land rights, regulations and law enforcement to achieve greenhouse gas emissions reductions. NYDF-related actions highlighting Indonesia are large REDD+ pilot programs (USD 1 billion partnership in Norway's bilateral deals with Brazil and Indonesia); a pledge by the Indonesian Chamber of Commerce (KADIN), Golden Agri Resources, Wilmar International and Cargill to revolutionize palm oil supply chains; and Indonesia's Action Plan on Indigenous Lands. However, little evidence on Indonesia's NYDF progress can be found.

The 2019 version of the NYDF's evaluation shows little evidence of eight of NYDF's goals being on track (NYDF Assessment Partners 2019). The goals of the NYDF, as published on its website (NYDF n.d), are as follows: (i) halting the loss of natural forests; (ii) efforts to address deforestation in agricultural supply chains; (iii) reducing deforestation derived from other economic sectors; (iv) alternatives to deforestation driven by basic needs; (v) restoring degraded landscapes and forestlands; (vi) anchoring forests in the SDGs; (vii) reducing emissions in accordance with global climate agreements; (viii) mobilizing finance for forests; (ix) rewarding successful emission reductions; and (x) strengthening forest governance while empowering forest communities. Results indicate that actions taken by many private and public actors often lack ambition and remain isolated (NYDF Assessment Partners 2019).

The NYDF Assessment Partners (2019) stated that average annual humid tropical primary forest loss has risen by 44% from the baseline period 2002-2013, from 3.0 to 4.3 million annually, since the NYDF was declared (NYDF 2020). However, the NYDF committee did appreciate Indonesia's annual primary forest loss rate in 2017 and 2018 being more than 30% lower than during the 2002-2016 reference period, as a result of collaborative action undertaken by the government, the private sector and civil society, as well as wetter weather conditions helping reduce the incidence and extent of fires (NYDF 2020).

3.1.2 Governance in areas under serious threat of deforestation and forest degradation

Forests on the national agenda

In the first period of the President Yudhoyono administration, annual work plans (*Rencana Kerja Pemerintah* or RKP) concerning natural resources and environmental governance still focused largely on establishing forest areas, integrated forest management, controlling forest fires and reducing hotspots. Only in 2008 did the government begin designating Special Allocation Funds (*Dana Alokasi Khusus* or DAK) for environmental management programs. However, it should be noted that the DAK allocation largely ignored the forestry sector and reducing deforestation rates. The goals, direction and policy focus of the 2009 RKP did show improvements in addressing natural resource use and environmental management, with the government becoming actively engaged in climate change mitigation and REDD+ implementation (RKP 2009).

With Indonesian involvement in climate mitigation efforts, forest issues became more visible on the agenda. This was apparent in the 2010-2011 annual work plan and through the early adoption of REDD+. However, Indonesia was facing a similar problem to other forest rich countries in balancing climate mitigation commitments and economic growth. In 2012, Indonesia launched the Master Plan for the Acceleration and Expansion of Indonesian Economic Development (MP3EI) at the same time as it began implementing the National Action Plan for Greenhouse Gas Emissions Reduction (RAN-GRK) at the regional level and entering the REDD+ readiness phase following the 2010 Indonesia-Norway Letter of Intent (LoI). Government prioritization of the development agenda became more pronounced the following year as Indonesia strived to achieve its 2015 Millennium Development Goal targets.

In 2015, a change of regime marked a shift in the direction of forest management with forests becoming the object of agrarian reform and social justice (access to land and forest through social forestry). The government also focused on accelerating infrastructure development in remote areas to build connectivity between regions in Indonesia.

More recently, REDD+ and sustainable forest management have diminished on Indonesia's agenda. Yet, forests are still expected to play an important role in climate change mitigation. The government submitted its NDC increasing its GHG emissions reduction commitment to 29% unconditionally and 41 % with International support by 2030. Forests are expected to contribute 38% (conditional) in this emissions reduction effort compared to the energy sector's 11% (conditional).

The government has also called for active participation from the private sector among others through zero deforestation pledges. Implementation, however, has not been easy. As Pirard et al. (2015) found, the legal framework is not systematically supportive of pledges, and the government promotes a different vision of sustainability.

Issues linked to decentralization

Indonesia's big movement towards decentralization began in 2001. Since then, many changes have occurred. Law No. 22/1999 provided a broad base autonomy to the local (district) level (Rasyid 2004; Butt 2010). This law gave local governments sovereignty over their political affairs and natural resources (Rasyid 2003; Hofman and Kaiser 2004; Resosudarmo 2005). In 2004, this arrangement was changed for the first time, as the power of local government was scaled back and some authority over forests restored to provincial governments (USAID 2009; Wollenberg et al. 2009).

Autonomy was rolled back further with Law No. 32/2014 with authority retracted from district governments, and instead shared between central government and the country's 34 provinces. Thus, the decentralization trend characterizing the previous two decades of forest governance in Indonesia was reversed (Colfer and Capistrano 2005; Sahide et al. 2016). Districts lost their authority to engage in forest planning, to form forestry services, and to issue local regulations related to forestry. The only forest authority that remains for districts/municipalities is the management of *Taman Hutan Raya* (Tahura), small forest parks in or near cities, for conservation, research, education and recreation (Simarmata and Firdaus 2016). Responsibility to implement, which includes granting permits for non-exploitative

activities, such as IUPK special mining permits, IUPJL environmental services utilization permits (except for carbon trading) and IPHHBK non-timber forest product utilization permits, as well as exploitative permits including IPHHK and IPK timber utilization permits, now fall under provincial rather than district government authority. Provincial governments are also given authority over communal and abandoned land. The resulting "legal-administrative volatility" (Sloan et al. 2018) is thought to generate incentives for the rapid and unsustainable exploitation of natural resources (McCarthy 2005; Moeliono et al. 2009).

The decentralization-recentralization tension continues to be part of the country's governance. Steni (2016) commenting on the new decentralization law highlighted that Indonesian central government has held authority over forest by controlling planning and gazettement since the early forestry laws of 1967 and 1999. However, the passing of Law No. 6/2014 on Villages afforded greater authority for village entities to administer their own villages and manage their assets (including natural resources), revenue and administration (Ardiansyah et al. 2015). Law No. 6/2014 has also provided the opportunity for indigenous communities to designate their areas as indigenous villages and customary forests, which, according to Supreme Court Decision 35/2013, are no longer included in the state forest estate.

Forest managers at the lowest level

Government Regulation No. 6/2007 mandated the establishment of forest management units (FMUs) or *Kesatuan Pengelolaan Hutan* (KPH). However, implementation of the regulation was delayed and the first FMUs were only established in 2010 (Kartodihardjo and Suwarno 2014). Strong commitment from the central government was indicated by its endorsement of FMU implementation nationwide by dividing the forest estate into FMUs according to Article 17 of Law No. 41/1999 (MoF 2011). Per April 2015, MoF had designated 531 FMUs in 28 of the then 33 provinces, including 183 protection forests (24 million Ha) and 437 production forests (60 million Ha) for a total of 84 million Ha, which was almost 63% of Indonesia's forest estate (MoF 2015).

Evaluations indicate that FMUs are still in an early phase and have so far not fulfilled their promise. Slow progress is explained by a range of factors, including: (i) a complex and dynamic policy environment; (ii) unclear legal roles and responsibilities; (iii) inadequate budgets; (iv) shortages of technical expertise and experienced staff members; (v) a lack of integration within the broader institutional structure of forest administration; (vi) insufficient communication and trust-building between actors; and (vii) a lack of acknowledgement by other local actors. This analysis is consistent across different studies, including a 2015 nationwide survey of FMU leaders (Fisher et al. 2017); a 2011 survey of FMU officials (Bae et al. 2014); analyses of policy texts (Ngakan et al. 2008; E. Suwarno et al. 2015); a comparative analysis of forest governance in 11 districts in Central Kalimantan (Suwarno et al. 2015); case studies of FMUs in Lombok (Riggs et al. 2018), Riau (Suwarno et al., 2014) and Lampung (Ota 2015); and the Forests and Climate Change Programme (FORCLIME)'s own analysis of constraining factors (FORCLIME 2015). The revision of the decentralization law (Law No. 23/2014) is cited by FORCLIME as one of the sources of legal confusion (FORCLIME 2015). Sahide et al. (2016b) go a step further and argue that the 2014 revision is an extension of ongoing attempts towards recentralization, insofar as it will empower provincial governments to wrest control over FMUs from district governments.

Social forestry

One of President Joko Widodo's flagship programs is the agrarian reform and social forestry program (RAPS) with a total target of more than 21 million Ha, 16.8 million ha of which is within the forest estate. Social forestry is not new; in 2002, social forestry was touted as an umbrella program of the 5 priorities reported to UNFF (see earlier section). Yet not much progress happened. In fact it was almost forgotten until it became a policy priority under Jokowi's administration. It started with a few small pilots at the end of the 1970s and developed only slowly over the subsequent decades. By 2012, only 0.48% of the forest estate had been legally devolved to local communities (RECOFTC 2013). The target of this latest effort was for 12.7 million a to be issued with social forestry

permits by 2019 (Resosudarmo et al. 2019), though by the end of Jokowi's first term that year only around 5 million ha had been realized. Throughout its evolution since the early 1980s, social forestry remained a permit system dependent on government providing such permits. The central government retained firm control over forest and forest land and was extremely reluctant to recognize or even clarify the rights of local communities, even when local communities had clearly managed the forest sustainably for generations. Even decentralization did not change this.

Originally customary forests were included as one of five social forestry schemes. More recently, in 2019, customary forests have been officially acknowledged as forests owned by customary communities and are excluded from the state forest estate.

Social forestry has been heralded as a win-win solution, a common ground between government and advocacy groups, as the policy provides formal recognition of communal rights, providing access to forest to improve livelihoods while still supporting conservation. This is also expected to be an innovative approach to solving Indonesia's complex land conflicts (Fisher et al. 2018). Social forestry also provides a middle ground between state and community interests as communities that often interact with forest estate boundaries have access to land rights despite state reluctance to devolve full management authority (Fisher et al. 2018).

Formalizing terms of access is believed to incentivize communities in managing their forests sustainably as well as providing economic development opportunities (Larson 2004; Shrestha and MacManus 2007; Maryudi et al. 2012; Porter-Bolland et al. 2012). However, doing so is not free from risks and local costs. Formal social forestry permit schemes have meant diverse local forest use and management practices are reduced to specific allowable activities regulated under such schemes (Bong et al. 2019), ignoring existing varied and complex local arrangements (Kamoto et al. 2013; Moeliono et al. 2017; Fisher et al. 2018). Local institutions and social arrangements are key enabling factors to achieve social forestry outcomes (Bong 2019). Under Minister of Environment and Forestry Regulation No. 83/2016 on Social Forestry and No. 11/2016 on Guidelines for Verification of Village Forest Management Rights, village forest permit application requires specific institutional arrangements in

the form of village cooperatives or village-owned enterprises. Meanwhile, as shown in Bong et al.'s review, local/customary arrangements have fulfilled a similar function in regulating the use and management of local forests in a more adaptive manner.

The exclusion of some community groups might have resulted from the relative tenure security of formal social forestry schemes. Rights to forest granted to groups or communities and regulated under the respective schemes, are often limited

Table 10. A short history of social forestry in Indonesia

| Year | Description | Progress |
|---|---|--|
| Pre-social forestry phase of the 1960s-1980s (Peluso and Vandergeest 2001; Colchester 2002) | Designation of political forest. Central government enacted sovereignty by appropriating as much land into the forest estate as possible. The systematic expansion of political forest took place through land surveys to identify valuable species for extraction as well as protection under state forest management. | In areas where communities refused to be resettled, social forestry schemes were awarded. Many of these locations were associated with high levels of conflict, which contributed to the government's decision to grant concessions based on community demands. |
| | Social forestry/community forestry introduced through the World Forestry Congress was followed by a Ford Foundation funded pilot project. | Social forestry was adopted as government policy, first as a requirement for forestry concessions and later as a government program. |
| 1990s (Edmunds and Wollenberg 2003) | The idea of community-based resource management (CBRM) became global rhetoric. Indonesia was compelled to adopt it into its social forestry (Edmunds and Wollenberg 2003). | |
| Post decentralization (Lucas and Warren 2003) | The emergence of the Indigenous Peoples' Alliance of the Archipelago (AMAN) and the Community Forestry Communication Forum (FKKM). Minor changes were made to the forestry law, but it failed to acknowledge stewardship rights over customary forests sufficiently enough for them to be realized in legal mechanisms. | Formal authorities showed little willingness to devolve forest management rights to communities or to establish a forest governance mechanism that allowed the inclusion of local communities despite numerous indigenous groups and NGOs across the country attempted to stake claims (Lucas and Warren 2003). Even though the law allowed applications for social forestry permits, these were very complicated and expensive as they followed similar procedures to those for large concessions. Permits for villages and communities to manage forests had to pass 29 desks in at least 4 offices taking 180 days or more to process. |
| | President Megawati launched social forestry as a new, overarching policy for Indonesian forestry on 2nd July 2003 in Palangkaraya, Central Kalimantan. Minister Prakosa issued Ministry Decree P01Menhut-II/2004 on the empowerment of people living in and around forests through social forestry | |
| 2015-2019 (Fisher et al. 2017) | In 2016, the process was simplified through new MoEF Regulation No. 83/2016. Nevertheless, preparing permits remains burdensome for local communities, and necessitates external technical assistance to prepare the necessary documentation. | A study looking at impacts of social forestry in Kajang, Sulawesi identified accountability mechanisms to be a major stumbling block for implementation on the ground. Lack of clarity and disagreements over village boundaries caused problems when mapping and delineating boundaries. Consequently, violations of rights and rules were often inevitable and the potential for horizontal conflicts intensified. Although national authorities have attempted to integrate a mapping database under the One Map Policy and consolidate national indicative and social forestry area maps or <i>Peta Indikatif dan Areal Perhutanan Sosial</i> (PIAPS), the problem of addressing historical claims remains a challenge. This has made MoEF hesitant to grant permits if maps are unclear. The development of new institutional forms compelled by social forestry policies could pit community groups against each other or undermine existing institutional arrangements. |
| | In 2017, despite its limited scope, a new customary forest scheme (<i>Hutan Adat</i> or HA) marked a major political victory for activists in Indonesia. | |

Sources: Processed from Peluso and Vandergeest 2001; Colchester 2002; Edmunds and Wollenberg 2003; Lucas and Warren 2003; and Fisher et al. 2017.

to use rights and are time-bound as the State imposes control over forests. For example, under Minister of Environment and Forestry Regulation No. 83/2016, *Hutan Kemasyarakatan* (HKM) community forestry rights in protection forest are limited to gathering non-timber forest products.

Livelihood objectives are driving the conversion of forests for other land uses and a shift from social forestry to more intensive production systems. Formal social forestry schemes that focus on entrepreneurial cooperative or village-owned enterprise (BUMDes) systems can provide more forest-related incomes and livelihood outcomes. However, close integration with a market economy has shown increased vulnerability to price fluctuations and a decline in social forestry.

More promising for local communities is agrarian reform, which provides full rights over land. The government has set a target of 9 million ha for full devolution. A large part would be from abandoned or expired license plantations, but 4.1 million ha is to be excised from the forest estate.

Forest and online single submission

Corruption often flourishes during permit issuance processes for forest management and revenue distribution from forests (Indrarto et al. 2012). President Joko Widodo's administration is striving to overcome problems with permit issuance through an online single submission (OSS) system for business permits and licenses issued by Indonesian government institutions. Initially administered by the Coordinating Ministry for Economic Affairs (CMEA), on 2 January 2019 the role was transferred to Indonesia's Investment Coordination Board (*Badan Koordinasi Penanaman Modal* or BKPM). The development of OSS was an arduous process and was delayed for several years as a result of a tug-o-war between CMEA

and BKPM. Several media sources reported that although BKPM was finally tasked with managing OSS, the transfer of authority was far from smooth. During the early stage of OSS development, CMEA was originally authorized to issue OSS permits. This meant BKPM no longer had permit issuing authority, which caused disagreements and misunderstandings between the two institutions, and led to BKPM halting business licensing and investment processes under the One Stop Integrated Service (PTSP) until January 2019 (Kumparan.com 2018).

The OSS system was developed as a platform to streamline investment and business licensing processes in Indonesia. At the time of writing, it is reasonable to describe the OSS system as a "work-in-progress", as it will take time to integrate data across all levels and between sectoral ministries.

In response to OSS, on 14 January 2019, the Ministry of Agriculture issued Minister of Agriculture Regulation No. 5/2019 on Procedures for Agriculture Sector Licensing replacing the earlier Regulation No. 29/2018 on the same matter, which had provisions contradictory to Presidential Instruction No. 8/2018 on Moratorium and Evaluation of Licensing for Oil Palm Plantations and Increasing Productivity of Oil Palm Plantations. The Presidential instruction aims to improve sustainable oil palm plantation governance by providing legal certainty and safeguards as well as protecting environmental sustainability, including reducing GHG emissions, helping oil palm smallholders and increasing oil palm plantation productivity.

Below is a comparison of plantation permit schemes under Minister of Agriculture Regulation No. 98/2013, which applied before the existence of OSS, and the subsequent Minister of Agriculture Regulation No. 5/2019.

PLANTATION PERMIT SCHEME

Based on Minister of Agriculture Regulation No.98/2013

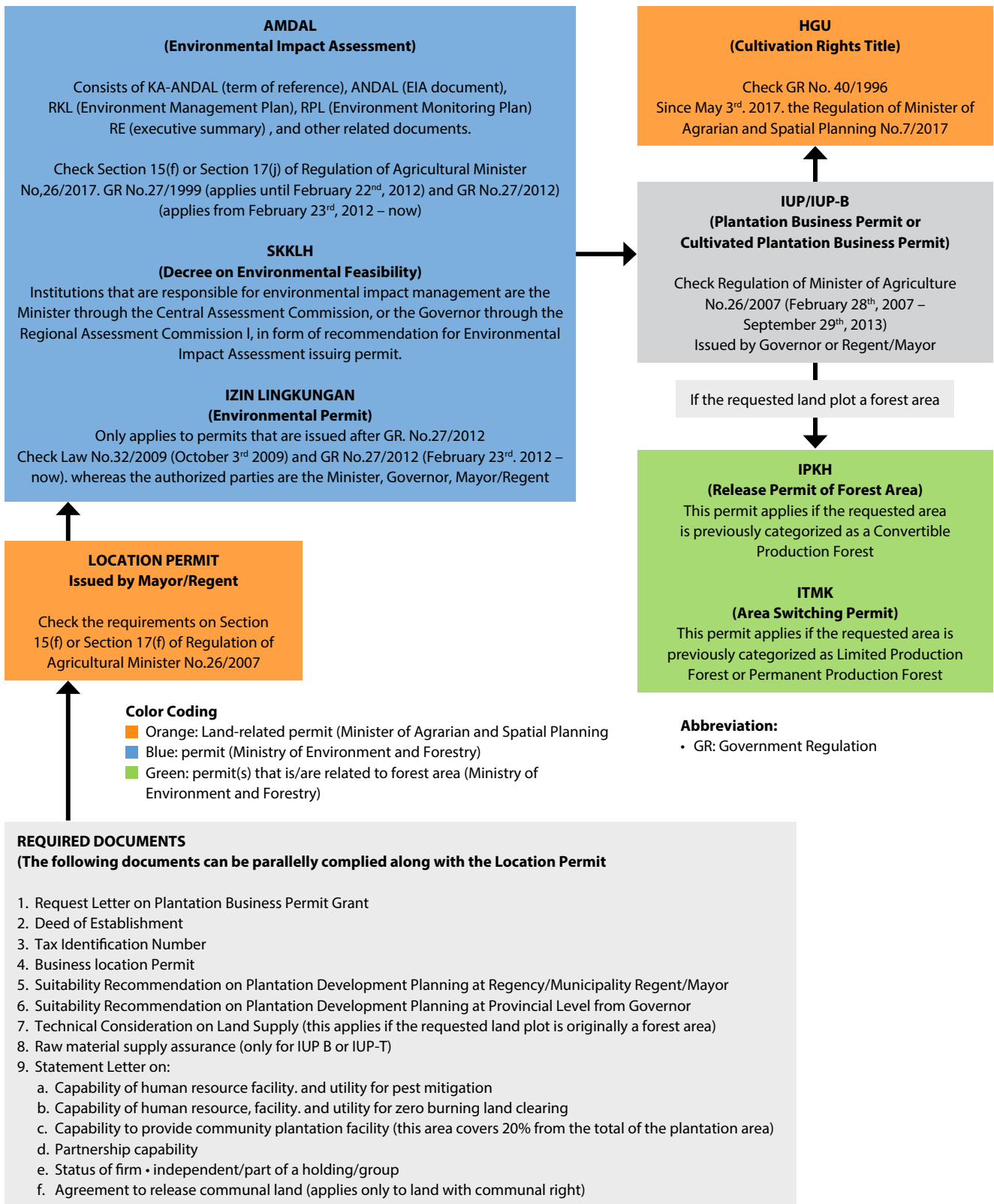


Figure 20. Plantation permit scheme under Minister of Agriculture Regulation No. 98/2013

Source: Translated from Madani Berkelanjutan 2019

PLANTATION PERMIT SCHEME

Based on Minister of Agriculture Regulation No.5/2019 (Online Single Submission)

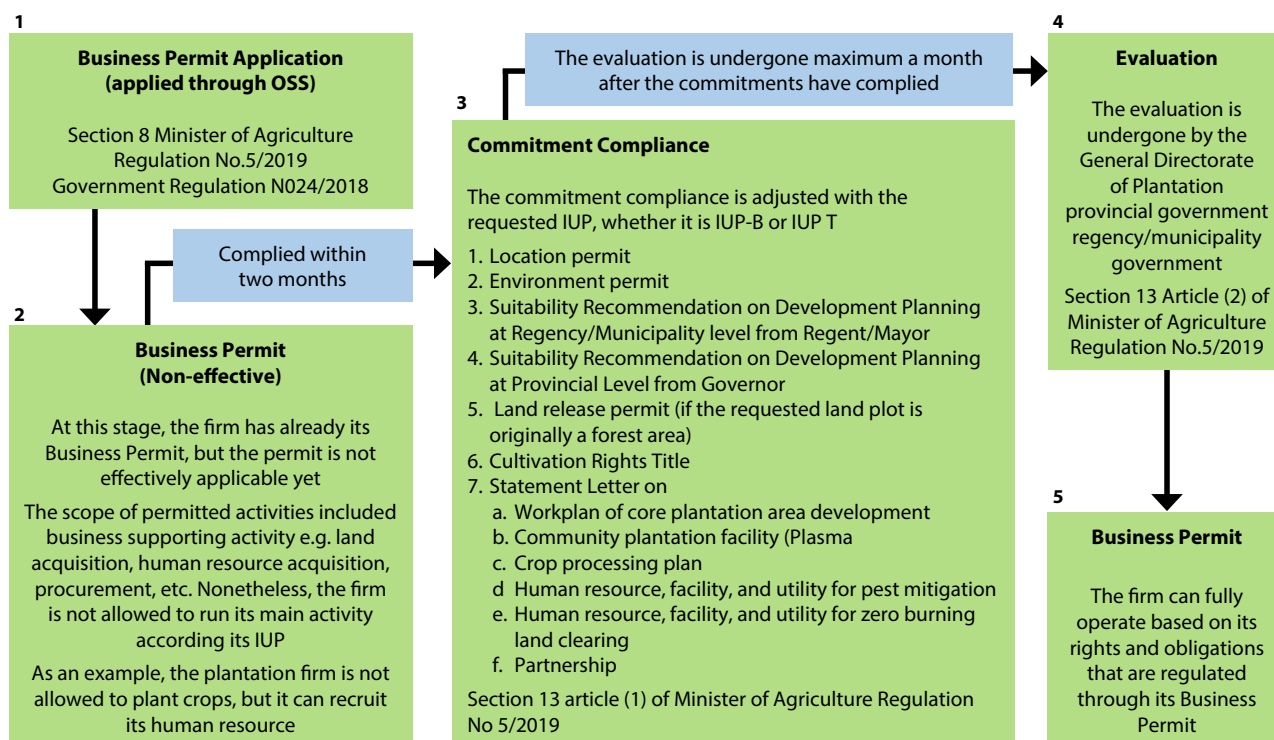


Figure 21. Plantation permit scheme under Minister of Agriculture Regulation No. 5/2019

Source: Translated from Madani Berkelanjutan 2019

Notes regarding significant differences between the two plantation permit schemes are included in Table 11. Table 11 shows how Minister of Agriculture Regulation No. 5/2019 changed the oil palm plantation licensing scheme from the previously tiered one with preconditions for subsequent permits, to becoming a stage in a commitment fulfillment concept. This makes the licensing process faster and simpler, but at the same time changes many existing licensing provisions. In addition, the Minister of Agriculture Regulation regulating earlier licenses has not been revoked and remains valid, which has the potential to create conflicts between existing provisions.

As this regulation was only enacted recently, it is too early for this report to gauge its implications for oil palm, forest and peat plantation management, or for the forest moratorium. Nevertheless, there are several possible consequences:

1. Minister of Agriculture Regulation No. 5/2019 is like a double-edged sword. On the one hand, it can speed up the licensing process to just two months, which is good

news for businesses but at the same time the acceleration of the licensing process has the potential to further harm the environment through massive expansion of monoculture oil palm plantations. On the positive side, Minister of Agriculture Regulation No. 5/2019 does provide legal certainty for surrounding communities with its obligations, and overlapping land claims could be avoided as planting in advance is not possible before securing an effective permit.

2. Minister of Agriculture Regulation No. 5/2019 potentially conflicts with Presidential Instruction No. 8/2018 on Moratorium and Evaluation of Licensing for Oil Palm Plantations and Increasing Productivity of Oil Palm Plantations. On the one hand is the acceleration of permits and on the other a moratorium on new permits.
3. Although Minister of Agriculture Regulation No. 5/2019 does not mention peatland management specifically, the acceleration of the licensing process may have a detrimental impact on peatlands with the increment of permits being granted.

Table 11. Differences between two plantation permit schemes

| | Earlier scheme | OSS |
|-----------------------------------|---|---|
| Plantation business permit | Issued at the end (before the business use rights/HGU concession permit) after all requirements had been met. Business actors had to obtain a Location Permit, Environmental Impact Assessment (AMDAL), Environmental Feasibility Decree (SKKLH) and Environment Permit before being granted a Plantation Business Permit (IUP) | Issued initially in the form of non-effective Plantation Business Permit (IUP) allowing business actors to conduct supporting activities such as purchasing land, recruiting workers, conducting AMDAL etc. During this stage business actors cannot carry out primary activities regulated through a full IUP, such as planting. |
| Permit stages and approval | Business actors had to secure the prerequisite permit for each stage of the process before applying for the subsequent permit. E.g. an Environment permit before an IUP, or an AMDAL before an Environment Permit, etc. | Requirements are collected together under one commitment (see number 3 in the OSS scheme) and must be met within a certain timeframe. |
| Processing time | Validity differed for each permit, e.g. Location Permit 3 years, KA-ANDAL 2 years, etc. Some permits had no clear or fixed validity period and processing times. | The IUP application process through OSS allows 2 months to meet all commitments. Then a maximum of 1 month for validation of all the requirements. If all requirements are satisfied, a business actor can commence operations. |
| Activity commencement | Following Constitutional Court Decision 138/2015, business actors could only operate after IUP and HGU approval. | Business support activities can already commence after receiving the non-effective IUP, while main business activities can only commence after all requirements are validated and a full IUP has been secured. |

Source: Madani Berkelanjutan 2019

Following OSS inception, the Minister of Agrarian Affairs and Spatial Planning issued Minister of Agrarian Affairs and Spatial Planning Regulation No. 14/2018 on Location Permits. The government regulates the objects and subjects, issuing procedures and validity periods of location permits, as well as the rights and obligations of location permit holders, location permit financing, monitoring and evaluation. The focus in this regulation is on procedures for granting and reviewing location permits (Aisyah 2018).

In addition, the Ministry of Agrarian Affairs and Spatial Planning has developed spatial planning measures to complement the online single submission (OSS) system and assist investors. Detailed spatial plans (RDTR) are planned for implementation in 250 municipalities and districts across Indonesia. This allows the government to ensure equal distribution of investment and improve approval processes for business location permit applications.

However, only 42 municipalities and districts had implemented RDTRs when the OSS came into effect. The ministry submitted a proposal to the Ministry of Finance for capital investment

in at least 50 regions by the end of 2018. Administrations without RDTR maps could use their regional spatial plan RTRW maps as a reference but required the Ministry's technical consideration as RTRW maps are less precise at a scale of 1:50,000 as opposed to RDTR maps at 1:5,000 (Ramdhani 2018).

3.2 Implications for REDD+

Forests are high on the agenda for their contribution to mitigating climate change (REDD+) and recently, to ensure social justice through the implementation of social forestry and agricultural reforms. These agenda items unfolded sequentially, in parallel but are not necessarily aligned. REDD+ and social forestry policies should be complementary, but in practice they are not and are often discussed separately (Moeliono et al. 2014; Sills et al. 2014). There is potential for synergy, as both schemes require clearly defined tenure arrangements for successful implementation. Since Social forestry is currently a priority program, this scheme could offer a 'jump start' for the tenure clarification much needed for a REDD+ benefit-sharing mechanism.

However, there are some risks to consider, most importantly on how to align REDD+ and social forestry objectives. REDD+ might restrict tenure/forest user rights in project areas as it focuses on carbon sequestration. This objective can be in conflict with social forestry schemes that aim to grant 30-year permits for communities to access and use forests to improve their livelihoods. Despite regulations requiring forests to remain forested, once devolved it is highly likely that most forest will be converted to other uses. In fact, the success of social forestry is often measured by production of shade tolerant crops such as coffee rather than on the condition of forests. Therefore, the existing social forestry schemes might not be compatible with REDD+ emissions reduction objectives, nor necessarily result in greater forest carbon stock (Poudel et al. 2014; Newton et al. 2015).

There is potential for integrating social forestry and REDD+ at the forest management unit (FMU) level to improve communication and coordination across scales (Poudel et al. 2014; Newton et al. 2015; Saito-Jensen et al. 2015). The new decentralization law granted FMUs more power to manage and administer social forestry as well as implement REDD+ action plans. Yet, the authority and responsibilities of FMUs seems largely unclear, and FMU implementation is still at the preliminary stage (Uhrig 2018).

A new risk of forest conversion to other land uses (i.e. plantations, supporting road infrastructure) has emerged with the implementation of the online single submission (OSS) system, which aims to accelerate investments. There needs to be cross-sectoral coordination and consolidation to align investments with REDD+ implementation to find the meeting point for development and conservation. Such efforts also require close collaboration between national and subnational levels.

President Joko Widodo kicked off his second term by preparing two bills proposing amendments to at least 79 existing laws. The media reported on the job creation bill submitted in mid-February 2020. Mongabay (2020) reported how the proposal had

potential for adverse impacts on the environment even more pronounced than previously feared. Further, the media reported that under the bill, regional administrations' forest and environmental management authority (including approving environment permits, plantation, mining and electricity generation permits) would be revoked and transferred back to central government as the sole authority in charge of spatial planning for land and forest management. Enacted in late 2020, the so-called Omnibus Bill reversed the spirit of devolution regulated under the 1999 decentralization law under which decentralization, made in the light of democracy, moved away from a powerful centralistic regime by delegating power to regional governments as they better understood the needs and challenges of their areas (The Jakarta Post 2020).

Prof. Hariadi Kartodiharjo, in the Forest Digest (17 February 2020) identified how the Omnibus Bill might weaken Law No. 23/2009 on Environmental Protection and Management. The first risk is posed by the changes made to Environmental Management (UKL) and Environmental Monitoring Efforts (UPL), that will no longer form part of the decision-making process for a business operation permit, as stated in Article 1 number 22. The second risk is posed by the removal of industries' obligation to obtain environment permits in favor of environmental agreements. The third risk is posed by the changes made to environmental impact analyses (AMDAL) where only those parties directly affected are allowed to be involved in the AMDAL preparation process. It no longer requires environmental observers or indirectly affected communities to be involved in drafting processes. There is no longer any requirement that environmental permit applications and decisions must be easily accessible to the public as previously provided under Article 39 of Law No. 23/2009. Also, due to the removal of environment permits, there is no longer any provision for suing entities that damage the environment as previously provided under Article 93 of Law No. 23/2009.

Contentious provisions on environment in omnibus bill on job creation

Article 18 on changes to Law No. 26/2007 on spatial planning

Article 6

(5) In the case of overlapping (claims) between forest and spatial plans or land permits or certificates, the resolution will be ordered by a presidential regulation.

Article 23 on changes to Law No. 32/2009 on environmental protection and management

Article 20

(3) Anyone will be allowed to dump waste into the environment based on the central government's approval.

Article 23

(1) The criteria for businesses that must have an Amdal (Environmental Impact Analysis) license will be reduced to a "process or activity that has important consequences in terms of the environment, society, the economy and culture".

Article 24

Environmental feasibility studies will be conducted by the central government and become the basis for issuing a business permit.

Article 26

(2) The (article stipulates the) involvement of people "who suffer a direct impact in working out Amdal documents. Currently, the "people" include those who suffer an impact but it does not specify whether they suffer a direct or indirect impact, if they are an environmental observer and/or who is impacted by the Amdal decision.

(4) Previously, the people could file an objection against the Amdal license.

Articles 29–31 to be removed

The articles regulate an Amdal Assessment Commission.

Article 36 to be removed

The article requires businesses to have an Amdal license to obtain an "environmental permit".

Article 38 to be removed

The article allows for the revocation of an "environmental permit" through the State Administrative Court.

Article 55

A business license owner will be obliged to provide environmental restoration funds that will be kept in a state-owned bank determined by the central government.

Article 76

The central government will apply administrative sanctions on the business owner should there be violations to environmental agreements. The sanctions will be stipulated in a government regulation

Article 79 to be removed

The article regulates the conditions for suspension or revocation of environmental permits, namely failure to cooperate with the government.

Article 93 to be removed

The article allows anyone to file a lawsuit against officials who issue environmental permits to businesses that violate Amdal regulations.

Article 37 on changes to Law No. 41/1999 on forestry

Article 18

The minimum 30-percent forest area that must be maintained for watersheds and/or islands is deleted.

Article 49

A business license holder will be required to prevent forest fires in their work area.

Article 26

The utilization and issuance of a business permit for protected and production forests will fall under the authority of the central government. Permit issuance will be regulated under a government regulation.

Article 38

The central government will be able to issue permits for forest utilization, which currently requires approval from a minister and the House of Representatives.



Source: JP, House of Representatives

Figure 22. Contentious environmental provisions in the Omnibus Bill on Job Creation

Source: The Jakarta Post (n.d.) in Jong 2020

4 The political economy of deforestation and forest degradation

Indonesia's political and economic development have relied almost exclusively on the country's abundant natural resources, with the forestry sector a means of development since the 1960s (Gelling 2009 *in* Indrarto et al. 2012) as well as a source of political power. Industrial scale exploitation of forests occurred within a context of unsustainable forest management, illegal logging and forest fires resulting in growing environmental problems (MoEF 2018). Meanwhile, communities living in and around forested areas remain marginalized.

Forests and forest land are one of the most contested resources in Indonesia. Ever since the State claimed the majority of Indonesia's terrestrial forest land as state-controlled forest, local communities living in and around forests have been dispossessed and marginalized. For decades the forests were exploited for economic development primarily benefitting a small elite (Saich et al. 2010 *in* Astuti and McGregor 2015) who possessed concessions. A study by WRI shows that 55 percent (equivalent to 4.5 million Ha) of deforestation happened in timber forest concessions (Wijaya et al. 2017). The accumulated wealth helped shape political power and maintain a pathway to further exploitation. Despite calls for improved governance, continuous unsustainable forest management allowed unsustainable logging practices, including illegal logging, and led to subsequent environmental problems.

A conjuncture of climate change crisis and presidential interest brought change. In 2009, at the G-20 Leaders' Summit, former President Yudhoyono committed to reducing national emissions by 26% (and 41% with international assistance) by 2020 (G-20 Minutes of Meeting). The land sector contributes more than 50% of the country's emissions, thereby maintaining forest stands and avoiding deforestation and forest degradation became a critical strategy for

Indonesia. Reducing Emissions from Deforestation and Forest Degradation (REDD+) was envisaged as a key climate change mitigation policy (Luttrell et al. 2014). The policy was heralded as a relevant political-economic intervention required to bring a solution to the ecological problem of climate change (Astuti and McGregor 2015). This section discusses the political economy that underlies and has shaped efforts for improving forest governance and mitigating climate change since then.

A political economy analysis covers political and economic interactions in a society, particularly in the arena of decision making. It involves power and resource distribution between different groups and individuals and the attributes of underlying formal structures to identify and understand interests, incentives and institutions that enable or frustrate change (DFID 2009; Luttrell et al. 2014). Natural resource dependence and materiality flows across specific groups of actors profoundly shaping Indonesia's political economy (Luttrell et al. 2014). This link between politics and the economy was very much shaped by political regimes during certain time periods. Trying to understand this we look at the set of procedures determining the distribution of power, institutions including rules of the game, actors and organizations (See Bratton and Van de Walle (1997) *in* Luttrell et al. 2014).

The series of global financial crises such as the 1997-1998 Asian financial crisis and the 2007-2008 financial crisis were determining factors for the country to set a robust development agenda and thereby avoid national economic instability. Indonesia remains heavily dependent on natural resource extraction as a main source of revenues. Thus, despite adopting the 'pro-climate' persona, Yudhoyono's development model favored business and economic development as indicated by the Masterplan for Acceleration and Expansion of Indonesia's Economic Development (MP3EI)

and the Merauke Integrated Food and Energy Estate (MIFEE), as explained below. Both projects focused on extractive industries, forest, and large-scale plantations that required vast areas of land and cheap labor. His successor, President Joko Widodo (Jokowi), is also a strong pro-growth figure aiming to achieve annual economic growth above 5 percent. A large part of his vision for development is still reliant on the exploitation of forest resources.

In 2016, the Government of Indonesia identified causes of deforestation as the following: intensification of logging in natural forests by timber concessions; conversion of forest estate for use by other sectors (agricultural expansion/estate crops), mining activities, plantations and transmigration; unsustainable forest management; illegal logging; encroachment and illegal land occupation in forest areas; and forest fires (Baplan 2008; Ditjenplan, 2011, 2012, 2013, 2014, 2015; DJPKTL 2017a, 2017b *in* MoEF 2018). Yet, while aiming to reduce deforestation, national development objectives as defined by the President's vision and mission continue to allow many of these deforestation drivers.

Indrarto et al. (2012) elaborated the forestry-related policies and programs of previous presidents in the earlier context of REDD+ in the first Indonesia country profile. In this section, we present an update focusing on national policies shaping deforestation and degradation trends under the Yudhoyono and Jokowi administrations. We first elaborate on policies and programs under both presidencies. Under Yudhoyono's presidency, MP3EI and MIFEE were among the most crucial development policies affecting the forestry sector. The forest moratorium is among key policies in the forestry sector under Jokowi's Presidency. Then, we discuss the political regime and institutions at the intersect of business-State relations. Finally, we conclude by summing up the analysis.

4.1 Forests under Yudhoyono's development agenda

In September 2009, at the Group of Twenty or G-20 Summit in Pittsburgh, President Yudhoyono promised to the world that Indonesia would reduce its greenhouse gas emissions by 26 percent by 2020 (business as usual projections) and by 41 percent with support from the international community. This commitment earmarked Indonesia's pledge to

contribute toward global climate change efforts at the international level by moving away from extractive industries (i.e. logging and plantation development) to reduce emissions from deforestation and forest degradation. Unlike his predecessors, who focused mainly on economic growth and post economic crisis recovery, Yudhoyono was the first president who gave a strong and bold political statement on the environment and climate change. Given Indonesia's remaining forest stands and its carbon potential, this statement received positive feedback from Annex 1 country leaders as indicated by various REDD+ initiatives on the ground post 2010.

It is worth noting that Indonesia was still economically, politically and institutionally fragile when Yudhoyono took the presidential chair (Hill *in* Aspinall et al. 2015). Nevertheless, compared to the Philippines, Indonesia only took seven years to be able to return to pre-crisis levels of per capita income. Fortunately, from 2004 to mid-2008, the global economy was growing and supported Indonesia's economic growth. However, the 2008 to 2014 economic crisis, started by the domino effect caused by the collapse of Lehmann Brothers, followed by the Eurozone near-crises, food price spikes and other economic disruption, created a precarious situation for Indonesia's economy (Hill *in* Aspinall et al. 2015).

Yudhoyono's government was based on the established political system that relies on coalition politics, and his economic management was reactive rather than proactive. Despite being the first Indonesian president directly elected by voters through a general election, he did not win the majority in parliament. Consequently, he needed to build coalitions with other political parties to cement his presidential terms and to gain larger political support. Yudhoyono invited as many parties as needed to join his coalition government. Such coalitions do not come without risks. Coordination was difficult and political transactions ruled (Kawamura 2010). Yudhoyono continuously needed to accommodate the different interests of coalition partners holding power in parliament (Kawamura 2010). He won his second term in 2009 with 60 percent of the vote and a tripling of his Democratic Party's share of seats – and thus had a stronger mandate to push through reforms. However, his approval rating dropped from 85% immediately after the election to 46 percent (BBC.com 2010) due to various scandals and unpopular decisions leading to a rebellion within his ruling coalition (McCawley 2012).

Despite the strong environmental commitments he expressed, Yudhoyono was very ambitious in setting annual economic growth targets of 7 percent (Abidin *in* Luttrell et al. 2014). Over the decade of Yudhoyono's presidency, positive annual growth was achieved in the range of 5-6 per cent (Hill *in* Aspinall et al. 2015) while commitments to keep forests standing in the context of adaptation and mitigation functions for climate change remained largely superficial. In the first year of his presidency Yudhoyono chose to continue the traditional approach of exploiting natural resources for economic development, as reflected in his national development agenda. Although it gradually moved towards sustainable development in subsequent years (GoI 2005). The government's work plan for 2005 (Indonesia 2005) stated that exploitation was necessary to support increasing economic activity in producing goods and services demanding natural resources as a means of production. Moreover, the plan suggested the development and exploitation of the eastern part of Indonesia through long-term land use licenses for agriculture, plantation and forestry businesses.

The deforestation rate from 2000 to 2009, which is the period that intersects with the first term of Yudhoyono's administration, was around 1.5 million ha annually (FWI 2011). A study conducted by Margono et al. (2014b) reported that by 2012 Indonesia experienced the highest loss of tropical primary forest overtaking Brazil. In the same year, the Guardian (Vidal 2014) quoted Margono's article, published in the Journal Nature Climate Change, showing Indonesia's deforestation rate in 2012 of 840,000 ha outstripping Brazil at 460,000 ha over the same period. It is also important to note that Indonesia's 2016 NDC includes the calculation of a planned deforestation budget allowed under unconditional and conditional emissions reduction scenarios (theoretically not exceeding 0.450 million Ha) (GoI 2015).

There is much evidence linking economic development strategies pursued at the national and district levels with deforestation (Anderson et al. *in* Aspinall et al. 2015). Forest Watch Indonesia (FWI 2014) argued that a corrupt political and economic system was the main underlying cause of persistent high levels of deforestation. Similar arguments were raised in a study by The Asia Foundation (2013), which highlighted poor land and forest governance as the main challenge facing the Indonesian government.

4.1.1 Masterplan for Acceleration and Expansion of Indonesia Economic Development (MP3EI)

Yudhoyono believed that Indonesia needed to transform into a developed nation in the 21st Century with a strong economy that could withstand economic crisis. This agenda was clearly reflected in the MP3EI. This ambitious plan was aimed at increasing per capita income to USD 14,250 - 15,500 and total gross domestic product to USD 4 - 4.5 trillion (CMEA 2011; Indonesia Investments 2018). This was to be achieved, among other means, through the conversion of natural forests to different kinds of businesses to create large profits for industry as well as tax revenues.

Under this masterplan, Indonesia was divided into six economic corridors based on six major islands in the country. Among these economic corridors, Sumatra, Kalimantan and Papua – where the remaining forests targeted as centers for economic production and processing of natural resources, mining, and food required land conversion seen by many as a clear contradiction of Yudhoyono's policies aiming to reduce deforestation and GHG emissions (Casson et al. 2015). The six corridors of infrastructure development across Indonesia could lead to further fragmentation of ecosystems, migration, conflicts and more deforestation (Rachman and Yanuardy 2014), while the conversion of large areas of forest would be a major source of carbon dioxide emissions.

MP3EI implementation in the forest rich provinces inevitably led to increased deforestation and forest degradation, especially since the three pillars of MP3EI were: i) large-scale resource concessions; ii) special economy areas; and iii) infrastructure projects. MP3EI created a momentum for central and regional governments to issue concession licenses related to forest exploitation and conversion, large-scale mining businesses and/or large-scale plantation businesses (Rachman and Yanuardy 2014). As a result, officials could and did allow deforestation. The Mining Advocacy Network (JATAM) (Indoprogress 2013) assessed MP3EI as a greedy project noting that it remained business as usual, largely depending on vast land conversion and cheap labor mainly benefitting a business elite.

These types of projects often involve land grabbing, human rights violations and environmental degradation. The special economy corridors such as Kalimantan, Sulawesi and Sumatra – where the remaining rainforests were located — were targeted for expansion of oil palm plantations. In the Kalimantan economic corridor, in particular, commercial-scale industrial plantation forest (HTI) development was planned to cover four provinces: West Kalimantan (1 million ha with investment of approximately IDR 9.6 trillion); East Kalimantan (417,000 ha and IDR 7.2 trillion); Central Kalimantan (270,000 ha and IDR 5.4 trillion); and South Kalimantan (89,000 ha and IDR 1.3 trillion) (CMEA 2011; Presidential Regulation No. 48/2014 *in* Casson et al. 2015). Meanwhile, planning for forestry development was supported by the National Forestry Plan (2011-2030), which aims to increase the forestry sector's contribution to national GDP by 300% (Obidzinski and Dermawan 2012 *in* Casson et al. 2015).

MP3EI was not only a land-based investment to expand agriculture businesses but was also intended for the development of physical infrastructure such as roads to close the development gap between regions in the corridors. However, economic theory and empirical evidence suggest that road building and improvement near forests may cause further deforestation or forest degradation through forest clearing for land speculation, agriculture and other activities (Angelsen and Kaimowitz 1999). Few countries manage to mitigate the impacts of forest road projects (Landrot 1999).

To look at the impact of MP3EI on forests, we considered total deforestation and forest degradation in forested regions in Indonesia when the project was launched (2011) until two years after the end of Yudhoyono's administration in 2014. Total deforestation (Figure 23) and forest degradation (Figure 24) moved in opposite directions during 2011-2016. As previously stated in Section 1, it could be possible that deforestation, in which primary forest is directly converted into non-forest and secondary forest changed into non-forest as well, occurred without forest being degraded first. While MP3EI kicked off in 2011, as mentioned in the promulgation of Presidential Regulation No. 32/2011, the physical development stage did not begin in earnest until 2014. Low deforestation might have resulted from the global economic slowdown after 2011. Indonesia's economic growth followed

this trend and MP3EI progress slowed down as did deforestation and forest degradation rates. Criticism was directed at the government for its lack of concrete measures to achieve the program's abstract targets (Indonesia Investments 2018).

During 2015-2016 when the deforestation rate reached its highest peak during the observation period (see Figure 23), the total area of degraded forest fell from 689,034.48 ha to 607,548.55 ha over the same period (see Figure 24). When President Joko Widodo's administration began following his inauguration in October 2014, he stated that MP3EI would resume but under a different name due to the urgent need for infrastructure development, particularly in remote areas. The lower rate of forest degradation at that time may be related to changes made at the administrative level with the change of government affecting the continuation of projects from Yudhoyono's administration.

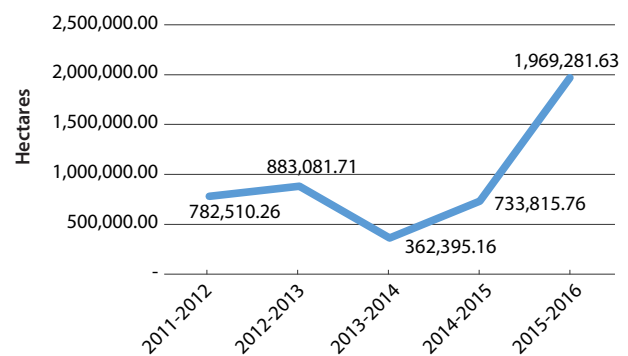


Figure 23. Total deforestation, 2011-2016

Source: Processed from MoEF Land Cover Map (MoEF n.d.)

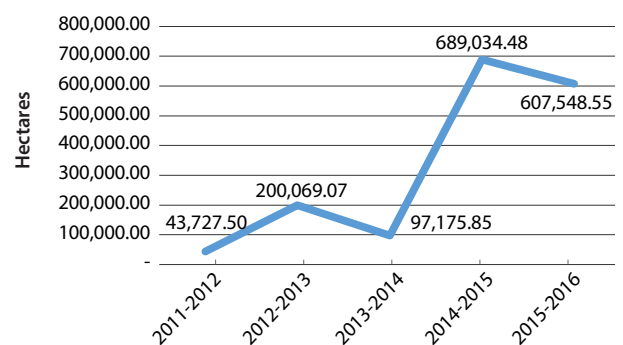


Figure 24. Total forest degradation, 2011-2016

Source: Processed from MoEF Land Cover Map (MoEF n.d.)

Among seven regions, Papua (indicated by navy blue in Figure 25) has the lowest total deforestation rate. Conversely, Papua has the highest total area of forest degradation (Figure 26). During the observation period, deforestation in Papua totaled 223,147.23 Ha, while forest degradation totaled 647,680.06 Ha. There was concern that Papua would lose its status as Indonesia’s last frontier for intact forest due to the MIFEE (Merauke Integrated Food and Energy Estate) project. As

shown in Figure 26, total forest degradation in Papua was high during the implementation of MP3EI. The high-profile MIFEE food development project, which tried to revive the Soeharto era dream of food self-sufficiency, may have exacerbated forest degradation. In addition to the MIFEE project, other ambitious projects were initiated in Papua, including the Sorong Port and road infrastructure project connecting Enaratori-Tiom (Ministry of Finance 2013).

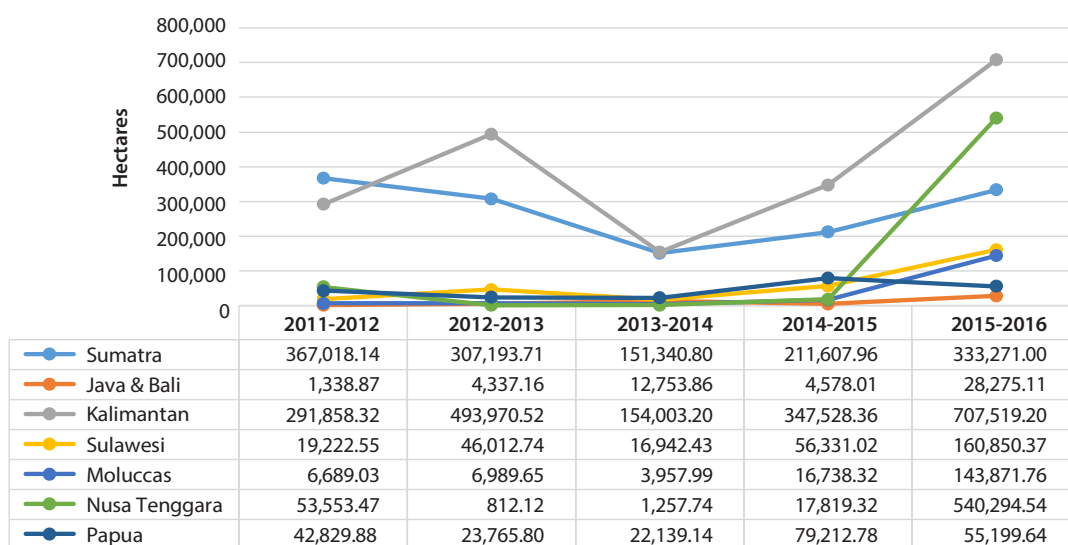


Figure 25. Total deforestation per region, 2011-2016

Source: Processed from MoEF Land Cover Map (MoEF n.d.)

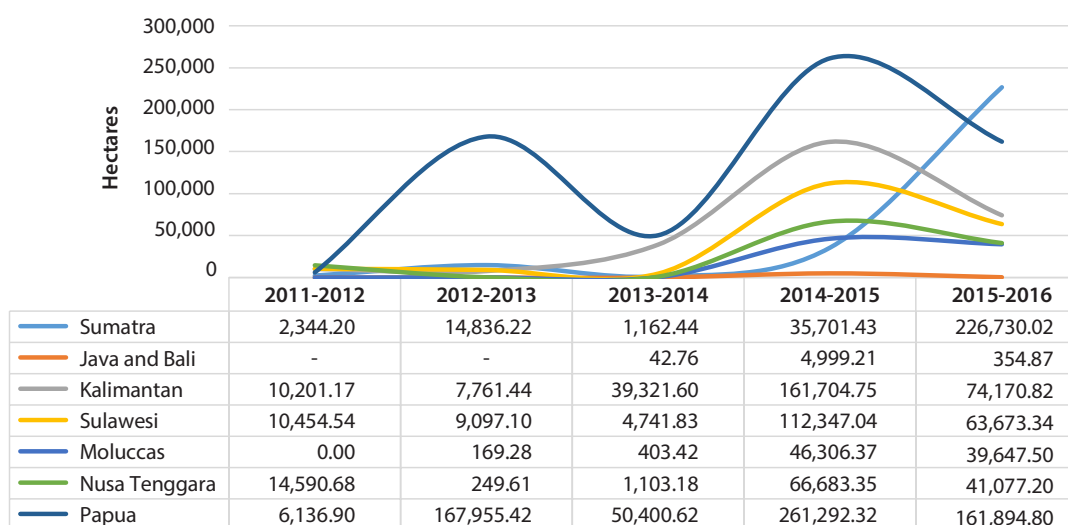


Figure 26. Total forest degradation per region, 2011-2016

Source: Processed from MoEF Land Cover Map (MoEF n.d.)

In contrast, the Kalimantan region, known in Indonesian popular discourse as one of the world's lungs, experienced the highest total deforestation (see Figure 25). Reaching its initial peak in 2012-2013, when total deforestation reached 493,970.52 ha, the figure fell in 2013-2014 to 154,003.20 ha, then rose again to 347,528.36 ha in 2014-2015 and peaked at 707,519.20 ha in 2015-2016. These developments could relate to the number of infrastructure development projects in Kalimantan established under MP3EI. According to former Coordinating Minister for Economic Affairs, Hatta Rajasa, the budget for MP3EI projects in Kalimantan (IDR 171.1 trillion) was the second highest after Java (ANTARA Kalsel 2013). Planned as the "Center for Production and Processing of National Mining and Energy Reserves", the Kalimantan economic corridor was positioned as a region requiring infrastructure development to support its main economic activities through the enhancement of oil and gas distribution and logistics (CMEA and Bappenas 2011).

Despite widespread criticism of MP3EI, the government claimed it was progressing positively, realizing 382 projects worth IDR 854 trillion in three years (Tempo.co 2014). The former Coordinating Minister for Economic Affairs reflected that MP3EI projects created new economic centers that could boost economic growth in different regions (Tempo.co 2014). However, in the end, Yudhoyono's MP3EI was never fully realized as financing such an ambitious program remained a key issue (Sipahutar 2014).

The plan was revised in June 2014 after being "greened" (See Presidential Regulation No. 48/2014 on Revisions to Presidential Regulation No. 32/2011 on the Master Plan for Acceleration and Expansion of Indonesian Economic Development). Subsequently, the new government administration led by Joko Widodo and Jusuf Kalla revised program goals as the budget for MP3EI had been extremely high (Tempo.co 2014).

4.1.2 The Merauke Integrated Food and Energy Estate (MIFEE)

Papua is the final frontier for intact forest in Indonesia (Andriansyah et al. 2018). Holding 38 percent of Indonesia's remaining primary forest

in 2012, it is home to a diverse array of plant, bird, mammal and reptile species, as well as many indigenous peoples and livelihoods (Tempo.co 2018). With a sense of nostalgia for the rice self-sufficiency Indonesia managed to achieve in 1994, leaders decided to create a food production estate at the expense of forest. Papua's store of 'undeveloped' land and its special status provided an opportunity to invest differently.

The rationale behind the Merauke Integrated Food and Energy Estate (MIFEE) was a global food crisis in 2008 and shortfalls in meeting domestic food demands. In late 2007 and early 2008, food prices were soaring rapidly (Clapp and Cohen 2009). Being dependent on the global food market, poor people in developing countries had to spend around 60-80 percent of their incomes on food (Sophal 2011). The cost of filling the food basket increased by more than 22 percent in Indonesia, and continued to rise even after global prices had fallen (Scott-Villiers et al. 2016). Moreover, Indonesia's dependence on imports of foods it cannot produce domestically such as soy and wheat, was difficult to finance during the crisis. President Yudhoyono responded by issuing policies to improve food security. Converting Papua's forests, which were seen as idle land from the perspective of Jakarta's corporate and government elites (Awat MIFEE 2012), was seen as an easy option. MIFEE, a food estate scheme that aimed to strengthen food security and enhance export businesses from industrialized agriculture, was supported by multiple regulations including Government Regulation No. 18/2010 on Crop Cultivation Enterprises, which allows local and international investors to manage land up to 10,000 ha for 35 years. Some 1,283,000 ha were prepared for MIFEE in Merauke district, Papua province. The area had previously been planned as the Kumbe Rice Estate during the colonial era to feed the southern Pacific region in 1939-1958. On paper, MIFEE supported the development of diverse agricultural products such as sugar, rice, corn, soy, sorghum, wheat, vegetables, fruits and livestock (including chickens, cows, goats and rabbits). However, concessions were mainly granted for oil palm, sugar and plantation forest estates (Awat MIFEE 2012). Fears for Papua's forest were proven correct with tree cover loss in Papua peaking in 2015 (Andriansyah et al. 2018).

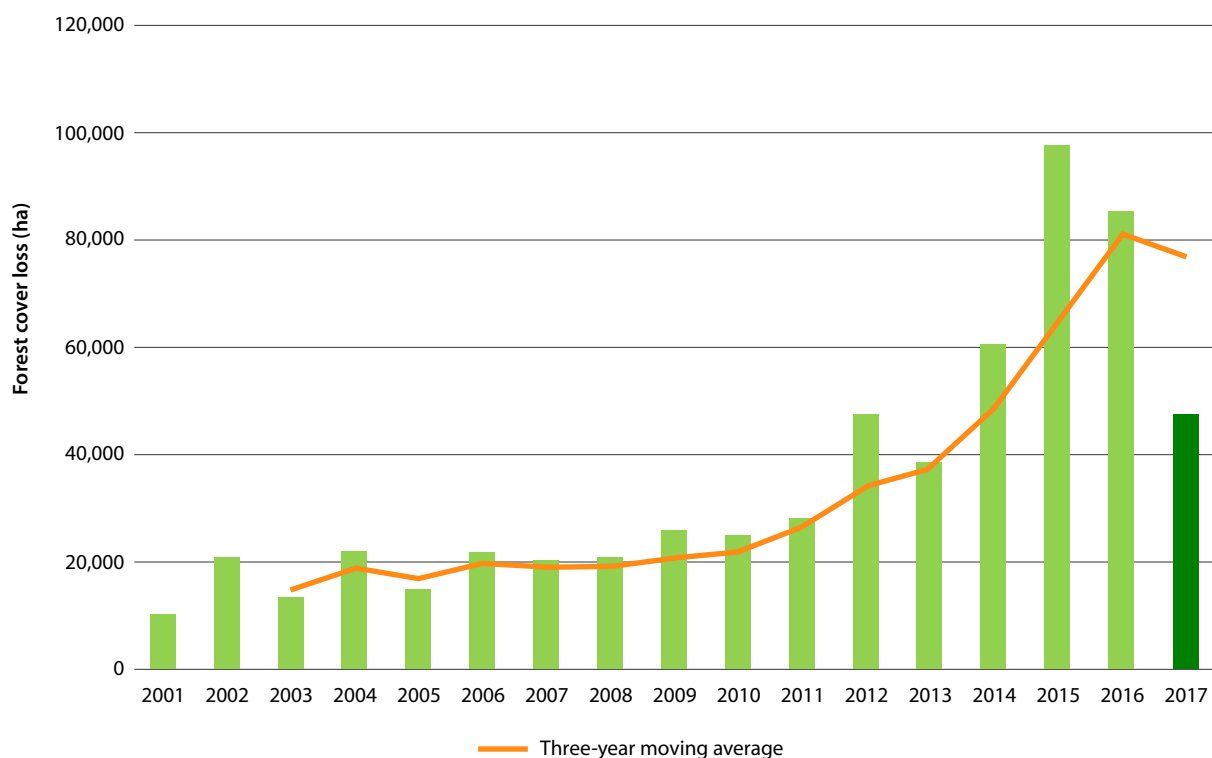


Figure 27. Annual forest cover loss in Papua, Indonesia

Source: Andriansyah et al. 2018

With reports of the alarming loss of forest in Papua, subnational authorities took positive steps towards forest conservation. Regional leaders responded by proclaiming West Papua the world's first conservation province. This commitment seems to have had an impact as forest loss declined in 2016 and 2017. However, the risk of deforestation and forest degradation remains an issue in the province as businesses look to Papua for available land.

4.1.3 Environmental protection and management initiatives: Law No. 32/2009 and the moratorium on developing primary forest and peatlands

Yudhoyono was considered a champion for the environment due to his political maneuver to promote the environmental protection agenda at national and international levels. Anderson et al. (*in* Aspinall et al. 2015) reviewed two major initiatives that Yudhoyono took during his presidency, the new Law No. 32/2009 on the Environment and a climate change mitigation plan that included the moratorium on new licenses in

primary forests and peatlands. The Environment Law (which replaced Law No. 23/1997 (formerly Law No. 4/1984) was enacted as it was apparent that after twelve years of implementation, Law No. 23/1997 had been ineffective at halting environmental destruction. The Ministry of Environment reported severe environmental quality degradation with significant increases in water and air pollution and increases in contamination from domestic waste and hazardous toxic waste (Setiawan 2006). Reports also showed land and forest degradation reaching 59.2 million ha and an annual deforestation rate of 1.19 million Ha. The goal of the new law was to manage all new legislation at the national and regional levels that impact upon natural resources, so they would adhere to principles of environmental protection and management, and provide the requirement to conduct strategic environmental assessments for them to receive approval (Anderson et al. *in* Aspinall et al. 2015). However, the draft regulation for strategic environmental assessments was rejected by other ministries involved with natural resources on the grounds the new law may threaten their activities (Aspinall et al. 2015). Despite this

frustration, two positive outcomes were observed from the implementation of the new law. First, a regulation on a system where environment permits are a prerequisite for business activities that may impact upon the environment (Aspinall et al. 2015) and the Indonesian Forum for the Environment (WALHI)'s success in using the new law as the legal basis for its lawsuit in January 2014 in Meulaboh District Court, Aceh province against PT Kallista Alam for burning peatland (Rini 2019).

To keep his promise to protect Indonesia's remaining primary forest and peatlands, Yudhoyono enacted Presidential Instruction No. 10/2011 suspending the issuance of new licenses for logging concessions and conversion of primary forests and peatlands. However, as Murdiyarso et al. (2011) highlighted, two important ministries related to deforestation and land-based emissions were omitted from the Instruction: the Ministry of Agriculture and the Ministry of Energy and Mineral Resources. These ministries play strategic roles in securing national food and energy supplies. Again, this revealed contradictions with Yudhoyono's commitment to reducing greenhouse gas emissions.

The total land area for the moratorium was highly political, with different authorities producing conflicting figures. Murdiyarso et al. (2011) showed figures proposed by Yudhoyono's adviser on climate change, the Secretary General of the Ministry of Forestry, and the updated Indicative Moratorium Map ranging from 46 to 72 million ha. Clearly, the permit moratorium only protected a small portion of remaining forest. According to a report by The Asia Foundation (2013), the moratorium policy prevented the issuing of new permits on only 22.5 million ha of primary forest and peatlands, while 46.7 million ha of secondary forest was not protected. Meanwhile, Indonesia's forest cover fell by 4.3 million ha during the moratorium policy period, and figures may continue to rise due to the release of land use permits. Further, Greenpeace Indonesia (2017) as part of the Civil Society Coalition to rescue Indonesian forests, found that over six years of implementation, the area protected under the moratorium had fallen by 2,701,398 ha without explanation.

The moratorium was contested among different interest groups who produced confusing definitions, some including already-protected conservation and protection forest areas, and others citing exceptions

to the presidential instruction's provisions (Murdiyarso et al. 2011). Despite these issues, interest groups kept defending the moratorium until Yudhoyono's presidency ended in 2014 and advocated for moratorium extensions in Joko Widodo's presidency.

4.2 Forests under Joko Widodo's development agenda

Heralded as a populist president not beholden to the military and political elites, Joko Widodo's election to the presidency in 2014 raised great expectations for his supporters as he expressed a political will to work with multiple stakeholders. His background as a forestry major graduate and his experience as a furniture businessman were conceived as a good modality for understanding the problems surrounding forestry management in the country.

One of his first actions as president was to restructure the government, merging the Ministry of Forestry (MoF) and Ministry of Environment (MoE) to become a single government entity named the Ministry of Environment and Forestry (MoEF). Many actors, including the Indonesian Forum for Environment (WALHI) and Greenpeace Indonesia were skeptical about the decision arguing that combining the MoF's exploitation paradigm with the MoE's conservation paradigm was nearly impossible. The merger was followed by the dissolution of the National Climate Change Council (DNPI) and the REDD+ Agency. Under the new arrangement, these two institutions became part of the Directorate General for Climate Change Control (DJPP) under MoEF. During his presentation at the Wetlands' Seminar on Mangroves and REDD+ at the Morrissey Hotel in Jakarta on 26 April 2018, former REDD+ Agency chairman, Heru Prasetyo, called the situation an interruption to the grand experiment causing a significant slowdown on progress combatting climate change. However, Joko Widodo argued the merger was to streamline the government and reduce overlap between ministries.

Joko Widodo then appointed a politician from the *Nasional Demokrat* party, a member of the coalition of Joko Widodo's party (PDI-P) during the presidential election in 2014, as Minister of Environment and Forestry. Despite having

no experience in forestry, the new minister – a planning professional – delivered many corrective actions during her tenure in Jokowi's first presidential term. During her tenure, she was responsible for implementing President Joko Widodo's programs on agrarian reform and social forestry where 12.7 million ha of state forest estate would be allocated to communities through the social forestry program. She was also responsible for establishing 552 conservation areas covering 27.4 million Ha; developing the intensive silviculture (SILIN), reduced impact logging (RIL) and timber legality verification (SVLK) systems; reducing the deforestation rate through the continuing moratorium on primary forest and peatlands; releasing Government Regulation No. 57/2016 replacing Government Regulation No. 71/2014 on Peatland Ecosystem Protection and Management; improving forest fire prevention; strengthening law enforcement to combat wildlife and exotic plant-related forest crime; and improving water, air and land pollution controls.

As explained earlier, Joko Widodo was heralded as a people's president. However, his vision focused on economic development, and he himself is a businessperson first and foremost. His cabinet and supporters are mostly oligarchs with strong business interests. His vice president during his first term owns a large business network in the automotive, construction, property, logistics and energy industries. The *Nasional Demokrat* party chairman owns one of the country's largest media groups. The second Minister of Industry was from the *Golongan Karya* party and has business interests in agriculture and construction. The CEO of Panasonic Indonesia also became part of Joko Widodo's first cabinet. The Minister of agriculture was also a successful businessman involved in the pesticide industry. The Minister of Maritime Affairs and Fisheries owns a marine product processing industry and the airline Susi Air. Lastly, the Coordinating Ministry for Maritime Resources had a close relationship with Joko Widodo since becoming Minister of Industry and Trade during Abdurrahman Wahid's presidency. He was a former business partner of Joko Widodo when he was still in the furniture business with a company focusing on wood-based furniture. During Joko Widodo's presidency, government and business have become even more inseparable than before.

4.2.1 National infrastructure improvement priority

Joko Widodo developed a vision based on the '*Trisakti*' idea of Indonesia's first president (political sovereignty, economic self-reliance and cultural personality), which became '*Nawacita*', a nine-priority vision for Indonesia's future. *Nawacita*'s third priority is "Developing Indonesia from the margins", which aims explicitly at infrastructure development to strengthen rural areas and villages as part of the nation. This focus on infrastructure development would be implemented through the deregulation and de-bureaucratization of business licenses, public services and human resource development (GoI 2016b). During Joko Widodo's second term, *Nawacita* lost its significance and the president focused even more on economic development. One of the first acts of his second term was a focus on deregulation to facilitate investment.

President Joko Widodo's administration has focused narrowly on promoting infrastructure, considered a key component in addressing inequality and poverty (Warburton 2016). Goals include delivering 35,000 megawatts of electricity to the grid; upgrading and developing five port hubs and 19 feeder ports; building 3650 kilometers of new roads; and nationwide access to clean water (Waterburton 2016). Half of the funds for this development (over USD 411 billion) would be covered by the state budget, while the rest would come from private sector investment and other sources (Bloomberg.com, 1 July 2016 in Warburton 2016). The administration claimed that this drive for infrastructure development would alleviate poverty and regional inequality while at the same time boosting economies in the outer islands.

This developmentalism idea is not new. In fact, it is a continuation of the earlier drive for economic development. Most of the infrastructure projects were basically Yudhoyono's MP3EI in new packaging (Davidson 2016 in Warburton 2016). In 2014, the Deputy Coordinator for Infrastructure and Regional Development acknowledged that MP3EI was highly political and needed replacing. He further stated that the spirit of prioritizing infrastructure would be relayed from Yudhoyono to the Joko Widodo administration (Sari 2014). The distinct difference is that Joko Widodo was more able to fuel his dream with concrete funding

compared to Yudhoyono, by cutting fuel subsidies and successfully allocating IDR 290 trillion (USD 23.9 billion) to the government's infrastructure projects (Davidson 2016 *in* Warburton 2016). This was combined with 13 economic deregulation packages that allow increased private sector investment from both domestic and foreign sources. Joko Widodo has effectively repackaged Yudhoyono's MP3EI as a hallmark of his government's pro-poor policies.

While Joko Widodo's prioritization of national infrastructure might be necessary, it also runs counter to the forest conservation and climate change mitigation agenda. The 35,000 megawatts of electricity will still depend on coal power plants. Current plants contribute 61% of total national electricity production, with only 12 percent produced by new and sustainable energy (Banjarnahor 2019). Coal power plants also contribute 70% of emissions from the energy sector (Arinaldo 2020). Thousands of kilometers of new roads have encroached on national park areas (Ardiantiono 2015). Dam development to supply clean water has also used forest estate and potentially diminished the ecological functions of forests (Hutagalung 2019).

4.2.2 Continuing the moratorium on conversion of primary forests and peatlands

Conversely, Joko Widodo continued Yudhoyono's commitment to the moratorium on primary forest and peatlands first issued in 2011 and renewed every two years. The last moratorium extension under Joko Widodo's presidency was Presidential Instruction No. 6/2017 as he later made the moratorium permanent through Presidential Instruction No. 5/2019 just before the end of his first term (Winata 2019). Under this latest presidential instruction, 66.2 million ha of primary forest and peatlands will be saved in Indonesia. WRI Indonesia argued that Indonesia gains three benefits through the permanent moratorium: (i) no deforestation in primary forest and peatlands; (ii) assured livelihoods for local and customary communities living around forests; and (iii) reduced likelihood of forest and land fires (Samadhi 2019). This was highly appreciated by the public, and demands are growing to apply the same moratorium to secondary forest with activists concerned about the possibility of permits being issued on degraded primary forest that might be

categorized as secondary forest (Jong 2019). Also, current legislation on the moratorium on new licenses and improving primary forest and peatland governance still allow an exception for projects considered vital for the national development agenda, such as geothermal power plants, oil and gas, electricity and the production of agriculture commodities relating to food sovereignty (rice, sugar, corn, sago, soy and cassava) (President of the Republic of Indonesia 2019).

4.2.3 Defending Indonesia's resources: Oil palm and mining

In 2017, agriculture, forestry and fisheries contributed 13.14% of Indonesia's GDP, second only to industry. Among agriculture commodities, palm oil was the largest contributor to GDP at USD 21.25 billion (37.8 million tons of CPO) (Coordinating Minister for Economic Affairs 2017 *in* Katadata 2018).

The palm oil sector represents an enormous economic opportunity for Indonesia (McCarthy 2010). It has low production costs and high productivity and has emerged as an important source of biofuel in the Southeast Asia region. The worldwide demand for oil and fats (Santika et al. 2019) and high demand for new biofuel markets have brought more investors to the country (McCarthy 2010). Policy makers acknowledge the significant potential of palm oil for boosting economic growth and employing more than 3 million people (Directorate General of Estate Crops 2017 *in* Santika et al. 2019). Currently, Indonesia has around 14 million ha of oil palm plantations (Shahab 2019). To support palm oil production, 715 mills and 106 refineries are in operation producing USD 23 billion worth of exports in 2017 (Shahab 2019).

The importance of the palm oil sector to the economy, and increasing global demand for biodiesel have driven oil palm plantation expansion, which, in turn, has driven deforestation, peatland drainage, and loss of biodiversity (Malins 2017; Jong 2018). In 2018, global biofuel production increased in most major producing regions (FAO 2019). While large profits have been made, numerous studies reported the social and environmental costs of palm oil might outweigh the economic benefits of the commodity (Sheilet al. 2009; Wells et al. 2016 *in* Santika et al. 2019)

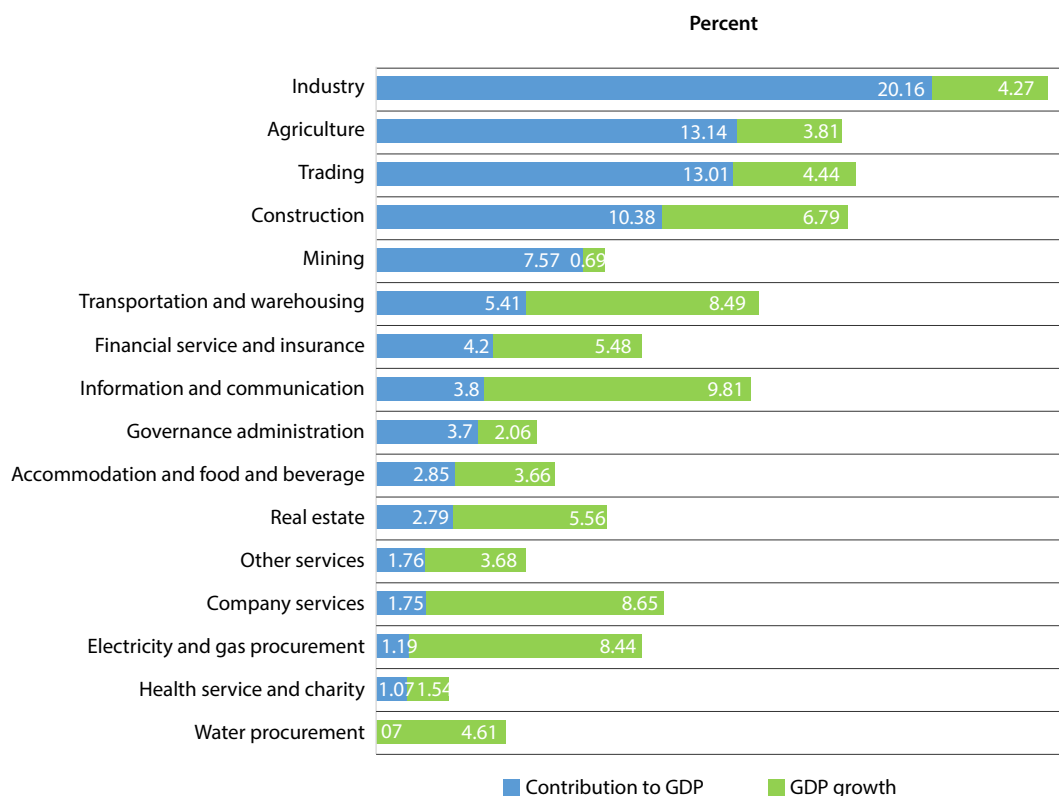


Figure 28. Sectoral GDP contributions and growth in Indonesia, 2017

Source: Translated from Coordinating Minister for Economic Affairs 2017 in Katadata 2018

Efforts to tackle deforestation and forest degradation from the palm oil sector have been taken directly by the government and indirectly through market pressure. After being on hold for more than two years from April 2016, in 2018 President Joko Widodo made a significant political decision by signing a moratorium on new licenses for oil palm plantations (Presidential Instruction No. 8/2018). The policy mandated the suspension of new oil palm plantation licenses in forest estate and the evaluation of existing oil palm plantations licenses. Despite a two-year lapse before the plan was signed into official policy, the Ministry of Environment and Forestry (MoEF) claimed it had been enforcing an oil palm moratorium as early as May 2016 (Dessthania 2019). The moratorium was originally planned to apply for five years but was later reduced to three years until 19 September 2021.

Civil society organizations responded in various ways to the moratorium. Yayasan Madani Berkelanjutan (2018) published a report on the

content analysis of the moratorium that showed opportunities to save forests and indigenous rights because it protects the most vulnerable natural forest, targets problematic licenses, focusses on the problematic oil palm license database, tries to save the last remaining forest in plantation concessions, and considers farmers and indigenous peoples' rights. Sawit Watch Indonesia showed that implementation of the regulation was lacking as 19 of 25 provinces and 239 of 247 districts had yet to respond to the regulation. Budget shortfalls have been cited as the main constraint to operationalizing the policy, along with a lack of technical guidance for regional governments to implement it and a lack of transparent access for civil society to monitor its implementation (Nugraha 2019).

Meanwhile, the European Union aims to phase out the use of palm oil for biofuels by 2030 as the market demands sustainable commodities. The policy itself was targeted at reducing deforestation rather than specifically targeting the palm oil sector (Shahab 2019). However, the EU's proposal to

ban palm oil imports from Indonesia has caused intense polarization between palm oil proponents and opponents. Debate has increased on whether oil palm plantations are indeed the main driver of deforestation in Indonesia. Debate related to palm oil used to be between environmentalists and businesses, but more recently debates have also occurred among environmentalists themselves. A Forest Watch Indonesia (2018) study of major forest estates in three provinces showed deforestation rates remained high during the 2013-2016 period, averaging 240,000 ha annually. A Greenpeace investigation assessed deforestation by 25 major palm oil producers and found they had cleared more than 130,000 ha of rainforest since the end of 2015 (Greenpeace 2018). Meanwhile, Bogor Agricultural University (IPB) has been supporting oil palm plantations publicly (Agroindonesia 2018). IPB's field survey showed evidence that oil palm is not planted inside, but outside designated forest estate, arguing that deforestation is not only caused by oil palm plantations (Jati 2017). Further, in 2018, the IPB Faculty of Forestry argued that oil palms are trees and should therefore be considered forest plants (Amri 2018).

Sumatra and Kalimantan are regions with high levels of deforestation and experienced the greatest losses of primary forest, 68 percent and 51 percent respectively from 2016-2017 (Hamzahet et al. 2018). Most provinces in Sumatra, with the exceptions of Aceh and Bengkulu, depend on crude palm oil/palm oil as one of their main exports (Global Business Indonesia 2019). In Kalimantan, meanwhile, coal is the main export, except for West Kalimantan, which depends more on rubber, timber, processed food, fruits and inorganic chemicals (Global Business Indonesia 2019). Both regions are known to use forest estate to develop their businesses.

Indonesia has produced many regulations aimed at preventing deforestation and forest degradation. However, implementation and law enforcement for non-compliance remain lacking. Evidence shows that continued deforestation and forest degradation from land use, land-use change and forestry activities is caused by an inability to monitor license use and business misappropriation effectively. In 2018, an investigation by Tempo, Earthsight, Mongabay and Malaysiakini revealed that 280,000 ha of concession land had been

abandoned by the Menara Group, which failed to fulfill its pledge to develop oil palm plantations and associated infrastructure (Tempo.co 2018). Instead, it secured huge profits from logging high value timber worth IDR 12 trillion or around USD 847 million.

Revenues from natural resources such as timber and coal play an important role in funding political campaigns in elections (Burgess et al. 2011 *in* Luttrell et al. 2014). The complex bureaucracy allows political elites to exercise their political power in permit issuance. Converting forest estate for plantation businesses like oil palm is time and resource consuming in Indonesia. A World Economic Forum Executive Opinion Survey (WEF 2017) revealed that inefficient government bureaucracy is the second most problematic factor just below corruption for doing business. Companies need seven different licenses before they can secure permits to develop plantations. Among the many regulators, the former Ministry of Forestry held the strongest remit through its forest estate release permits (IPKH) (Tempo.co 2018b). A recent development relating specifically to minerals and coal is the controversial revision of the 2009 Coal and Mineral Mining Law with the promulgation of Law No. 3/2020 on 12 May 2020 as part of the overall Omnibus Bill agenda. Civil society organizations have criticized the changes as they may jeopardize regional autonomy, environmental protection and local communities (Jakarta Post 2020). The House of Representatives approved the controversial revision during the Covid-19 crisis when public attention was focused primarily on safety and wellbeing during lockdown. The mining law received contradictory receptions from the government and civil society organizations (Jakarta Post 2020) with the government claiming the new law would increase State revenues by providing legal certainty and investment for mining companies. According to analysis from the Jakarta Post (2020), the key points in the law are: (i) obligating mining exploration every year; (ii) protecting six giant coal mining companies whose mining contracts will expire between 2020-2025; (iii) centralizing permit issuance under the Ministry of Energy and Mineral Resources; (iv) unclear protection for local communities and the environment; (v) nationalizing resources by requiring foreign-owned mining companies to divest 51 percent ownership; and (vi) incentives of 30-year permits with

unlimited renewals for mining companies able to develop downstream facilities. Meanwhile, the civil society organization, Indonesian Corruption Watch (ICW) criticized the new law saying it would only benefit elites. There are seven mining companies with coal mining work agreements (*Perjanjian Karya Pertambangan Batubara* or PKP2B) affiliated with the richest people in Indonesia, public officials and/or companies registered in offshore tax havens (ICW 2020).

4.3 Business-State relations in politics

Political leaders have to share power and resources with strong political groups that can finance political campaigns. The costs of successful election campaigns are high and can only be covered with help from business sectors. The Indonesian general election in 2004 marked a milestone in shifting Indonesian politics as voters elected their president and vice president directly for the first time in the country's 59-year history (Sebastian 2004). Yudhoyono rose to power after winning the presidential election runoff against the incumbent President Megawati. Yudhoyono's newly formed Democratic Party, established in 2002 (detiknews 2004; factsanddetails.com 2019) won only 7.5% of the vote in the legislative election, while the *Golongan Karya* (Golkar) party won 21.6%; *Partai Demokrasi Indonesia-Perjuangan* (PDI-P) 18.6%; *Partai Kebangkitan Bangsa* (PKB) 12.5%; and *Partai Persatuan Pembangunan* (PPP) 9.15%. Consequently, Yudhoyono's party needed to build a coalition to secure and stabilize his presidency. However, as Aspinall et al. (2015) argued, this inclusiveness undermined his government's effectiveness as he was forced to compromise to accommodate widely varying interests. So, how did the private sector become involved in the process and what are the implications for forests?

Large-scale companies own resources to ensure the continuation and profitability of their operations, especially in the form of access to concessions secured from the government. This often involves lobbying or rent seeking. It is no secret that big businesses often stand behind certain political figures (even multiple ones), pouring their money out to finance political campaigns. Although such practices existed long before Indonesian *reformasi* in 1998, subsequent changes in financial arrangements for political parties signified the

increasing role and influence of business in politics. These reinforced each other in shaping national- and local-level political dynamics and the way natural resources are governed.

Mietzner (2008) wrote that after Suharto's resignation, to have effective participation from the newly emerging political parties in the democratic system, Indonesia's elite agreed that regular subsidies from the State were needed. However, these subsidies were paid in an irregular and sporadic manner, with the government extending some assistance during the 1999 elections. In 2005, Yudhoyono issued a new decree on public party financing, which led to a dramatic fall in party revenues. Changes in funding mechanisms for political parties shaped conditions affecting how national and local elections were conducted. From 2005 onwards, governors, mayors and district heads have been directly elected by the people. As a consequence, political parties' expenditure has grown exponentially. Parties have come under increased pressure to raise additional funds due to state subsidies declining and political costs rising. The impact has been increasing dominance of businesspeople over party boards and their policies, both internally and externally. In several cases, businesspersons operated from behind the scenes to exert influence through their donations, while others assumed more direct control over parties. Political figures were forced to seek multiple pots of money to finance their election as required by parties. The requirement is to pay hefty sums for political endorsement of their candidacy and campaigns.

Regional elections for governors, mayors and district heads have experienced similar situations. Party boards often find it impossible to finance the campaigns of their own cadres given their financial constraints. Consequently, most parties nominate non-party figures, including bureaucrats, entrepreneurs and retired security officers. In exchange for nomination, candidates are expected to pay hefty fees to the party and its individual functionaries for promises of political and financial patronage if elected to office.

As explained earlier in this section, the 2004 election brought a new political landscape to parliament, with a growing number of political parties. Consequently, votes were spread more thinly across the board. The Democratic Party,

Yudhoyono's vehicle, was newly born and needed to build coalitions to cement its political position. President Yudhoyono was accused of giving out bureaucratic positions to members of political parties that supported his re-election campaign and to long-term political allies (Wiyono 2009 *in* Luttrell et al. 2014). Many ministries, including the Ministry of Forestry, were headed by political appointees, and 19 of the 37 cabinet positions assigned at the start of Yudhoyono's second term were given to politicians without any real experience in their portfolio areas (Gelling 2009 *in* Luttrell et al. 2014) but rather as a result of negotiations over the coalition. This happened because the presidential mandate alone is insufficient for implementing reforms. Doing so depends on the legal mandates of the relevant organizations, a clear chain of command with implementing institutions, institutions of accountability and wider political support.

While Yudhoyono came from a military background and had links to the political elite, Jokowi on the other hand promised a fresh outlook. He did not come from the traditional power network of political families, military, bureaucracy or Moslem organizations. Jokowi was also the first president to have assumed office from a position in regional government, having been mayor of Solo (2005-2012) and governor of Jakarta (2012-2014) (Mietzner 2015). In addition to the man of the people image that Jokowi embraced in his 2014 presidential campaign, his ability to mobilize oligarchic support to finance his campaign, for instance, Surya Paloh, Jusuf Kalla (his running mate) and Sofjan Wanandi (head of the Bisnis Indonesia Group) helped him to victory. Family business networks, meanwhile, supported his opponents in the election, Prabowo-Rajasa (Mietzner 2015).

This composition had not changed much in the 2019 presidential election. A Mining Advocacy Network report (JATAM 2019) identified at least seventeen mining entrepreneurs behind the two candidates for the Presidential Election and argued that the involvement of the mining industry behind each candidate's political camps showed that Indonesia's political competition is not much different from the competition in the mining sector. The report indicated at least eleven business partners in Joko Widodo and Ma'ruf Amin's campaign. Similarly, the opponent candidate

Prabowo and running mate Sandiaga Uno were supported by at least six large entrepreneurs, representing forest, mining and oil palm businesses. Prabowo himself is the owner of Nusantara Energy Resources that houses 17 subsidiaries, some of which are engaged in oil palm and coal mining. Meanwhile, Sandiaga Uno is the owner of several mining companies, starting from the Saratoga Group, which is connected to Interra Resources Limited whose business is in the oil and gas sector.

This growing convergence between business and politics has also been reflected in regional elections. Since 2015, in an effort to streamline election processes, regional head elections across the country have been held simultaneously. In 2018, regional elections were held in 17 provinces, 115 districts and 39 cities through a direct one-person-one-vote election system. The simultaneous regional elections entrenched financing issues and problems. The Gecko Project and Mongabay Indonesia (Gecko Project and Mongabay 2018b) reported that the cost of winning a regional head election could reach tens of billions of rupiah, or millions of dollars. According to a 2016 study by the Corruption Eradication Commission (KPK), the estimated cost was between IDR 20 billion and IDR 30 billion. Former KPK Chairperson, Busyro Muqoddas once told Tempo magazine that regional elections in Central Java cost up to IDR 52 billion. Meanwhile, Interior Minister Tjahjo Kumolo estimated that the cost of winning the regional election would amount to IDR 75 billion. There is no limit to campaign spending, unless it applies locally. There are regulatory limits to campaign donations, namely IDR 1 billion per individual and IDR 4 billion per institution or company. Even so, contributions can far exceed the provisions. One political party spent up to IDR 100 billion for television advertising alone in the 2009 legislative elections (Mietzner 2010).

A report by the Corruption Eradication Commission's Directorate of Research and Development (KPK R & D) entitled "Study of the Potential Conflict of Interest in 2015 Regional Election Funding" explained that the fees needed to become a mayor/district head reached IDR 20-30 billion, while for governors they reached IDR 20-100 billion (KPK 2015). State Official Wealth Reports (LHKPN) showed total assets of prospective regional heads in 2015 averaging only IDR 6.7 billion. The wealth of the regional head

candidates was not comparable to the enormous cost of participating in the direct election contestation (JATAM 2018). Consequently, to cover the costs required, candidates would have to actively seek sponsors.

Political collusion between businesses and politicians has remained rampant. Business people use and control regional head candidates through nomination and campaign financing. The candidates in turn pledge political guarantees, granting and securing licensing concessions. The KPK interviewed 450 of the nearly 800 candidate pairs who participated in the 2015 regional election. Two-thirds reported that investors who financed their political campaigns asked for rewards. Such rewards could take the form of government contracts, work, policies, or business permits (Gecko Project and Mongabay 2018b). Abdon Nababan, the former AMAN leader who ran as an independent candidate for North Sumatra governor in the 2018 election, in an interview with Mongabay explained how the situation meant there was no chance of winning fairly for candidates who seek to turn their back on corruption and “money politics”. Abdon further explained how a business consortium approached and offered him IDR 300 billion to finance his campaign. The ‘campaigners’ also promised an additional 300 thousand signatures, so he could qualify as an independent candidate at a cost of IDR 40 billion (Gecko Project and Mongabay 2018a). The trade-off would have involved handing over de facto control of provincial budgetary and land allocations.

Many believe that political campaigns are funded from revenues derived from natural resources (Burgess et al. 2011). To repay debts, programs were made to accommodate companies’ interests, which often involve deforestation and forest degradation. Former head of the Corruption Eradication Commission, Busyro Muqoddas, said forests are often treated like automatic teller machines for political parties. Forests contain riches, such as timber, flora and fauna, and underneath often contain mining materials. These riches are tempting sources of funds for regional head elections. Each political year, corrupt practices associated with natural resources in indigenous territories are increasingly prevalent, particularly those related to licensing collusion to misappropriate state revenues. In 2018, 7180

mining permits or 82.4% of all mining permits in Indonesia were in 171 districts where regional elections were being held, while 4290 or 49.2% of the total number were in 17 Provinces where elections were being held. Thousands of mining permits had the potential to become sources of political funding for candidates in the 2018 simultaneous regional elections (Hidayat 2018).

Cases of forest conversion at district and provincial levels are becoming a hot trend in investigations by the Corruption Eradication Commission (KPK). Recent cases have succeeded in forcing former Bogor District Head, Rachmat Yasin and Riau Governor, Annas Maamun to don orange KPK inmate overalls. Regional officials are now often suspected of corruption in forest estate exchanges (Fauzii 2014).

In 2017, material labelled as a KPK presentation released to the public included information on a *mafia* responsible for controlling large-scale forest, oil palm and mining concessions (KPK 2017). The KPK deemed the document invalid, but it did mention major business players. Sinarmas was mentioned as the company owning the largest area of land in Indonesia, with 38 concessions covering 2.6 million ha. The document also showed sixteen corporations from Singapore, Malaysia and Indonesia controlling 81% of palm oil exports. They were not only receiving money from exports, but also from biodiesel subsidies from the government. A similar reaction to the land use situation came from Siti Nurbaya, Joko Widodo’s Minister of Environment and Forestry, who complained publicly that 95.76% of forest estate was managed by businesses, leaving only 4.14% for communities (Damarjati 2018). A more detailed policy paper on the links between land conversion and patronage democracy was released by Sjafrina et al. (2013). The paper concluded that in Ketapang and West Kutai districts in Kalimantan, patronage networks were controlled by district heads, deriving incomes from the accumulation of fees for land conversion licenses. They also appointed relatives as company owners who were later given permission to mine coal (Sjafrina et al. 2013). Recent collaboration by Greenpeace, ICW and JATAM resulted in the publication of a report showing how political elites are heavily involved in coal mining funding political campaigns at the national and regional levels. KPK and civil society organizations have

documented significant increases in mining license issuance both before and immediately after elections. Direct elections are costly and require huge sums of money to cover expenses. Members of the political elite, such as Aburizal Bakrie (a former minister under Yudhoyono's presidency), Prabowo Subianto (presidential candidate in the last two elections) and Luhut Binsar Pandjaitan (Coordinating Minister for Maritime and Investment Affairs) were allegedly involved in conflicts of interest surrounding coal mining (Sjafrina et al. 2013). The mining law requires mining companies to have *Amdal* environmental impact licenses and carry out environmental restoration. However, companies frequently break rules in most mining areas in the country as a result of weak government monitoring.

The Constitutional Court (MK) and the Corruption Eradication Commission (KPK) were established in 2003 and developed into institutions that could disrupt political bargaining during Yudhoyono's presidency (Aspinall et al. 2015). KPK has opportunities to eradicate corruption not only inside government institutions, and has faced challenges from political actors who resent being scrutinized. Efforts to weaken the KPK through legislation, criminalization and intimidation have been ongoing for more than a decade (Putra 2020). Since 2004, KPK has reported more than 12 corruption cases in natural resource sectors, particularly forestry, most of which involved abuse of power and bribery (Rahma 2019). Meanwhile, Joko Widodo's *Nawacita* (nine priority agendas for national development) has brought a new hope for law enforcement in the country. It aims to strengthen and implement law enforcement reform and ensure systems are corruption free (MoEF 2018c). In forestry, Indonesia has begun to enforce laws and implement effective policies to combat illegal logging. Indonesia had been known as the country with the world's highest illegal logging rate (MoEF 2018c). Illegal logging remains an issue and haunts REDD+ implementation due to carbon leakage issues (MoEF 2018c).

There are common threads ensnaring district and provincial heads. The KPK study showed alleged corruption prior to and immediately after regional head elections. Regions rich in natural resources were quick to issue permits. The Rachmat Yasin case has led to the implication of

PT Bukit Jonggol Asri President Commissioner and Managing Director of PT Sentul City, Kwee Cahyadi Kumala, in bribes of IDR 4.5 billion allegedly given to Yasin. The money was handed over in order to accelerate the issuance of a forest estate exchange permit recommendation on behalf of PT BJA covering an area of 2754 Ha. The land is a condition for being able to use 30,000 ha for the ambitious Kota Mandiri project in Bogor. Meanwhile, in 2014, Annas Maamun, former Riau Governor was entangled in a case no less striking. Annas was arrested for allegedly accepting IDR 2 billion in bribes from Gulat Medali Emas Manurung in relation to a forest conversion process. As a businessman, Manurung had 140 ha of oil palm plantations on land categorized as industrial timber plantation (HTI). The bribe was given to facilitate a change of status to APL other use area (Lovina 2015).

A prominent corruption case involving Chief Justice of the Constitutional Court, Akil and the annexation of indigenous territories in Gunung Mas, Central Kalimantan, showed further evidence that corruption involving natural resources is prone to occur during election processes. KPK found Akil had enjoyed at least IDR 57 billion from "sales of services" in winning an election dispute for Hambit, the incumbent in the district head election in Gunung Mas. The KPK found the money used to bribe Akil had been sourced through a series of business agreements for oil palm plantations during the nine months leading up to the election (Deutsche Welle 2018).

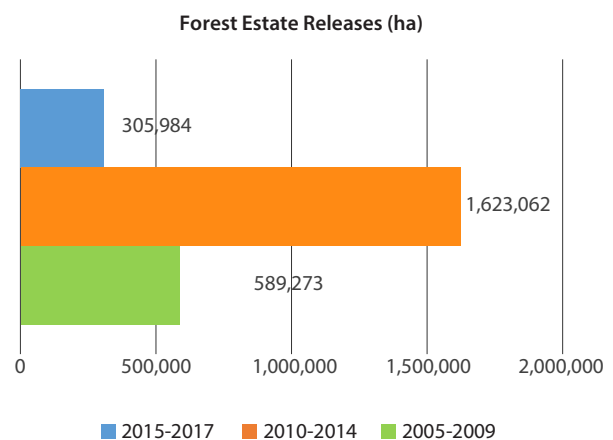


Figure 29. Forest estate releases, 2005-2017

Source: Damarjati 2018

Meanwhile, at the national level, the former Minister of Forestry from the Yudhoyono presidency issued almost three million ha of new plantation concessions to 44 companies, the highest number of forest concessions (HGU) since 2005 (Damarjati 2018). A press release from an Indonesian NGO noted the regulation allowing the concessions to go ahead was dated 31 December 2010, the day before a two-year logging moratorium was supposed to start under the Indonesia-Norway USD 1 billion REDD deal (Greenomics 2011). Minister of Forestry Regulation No. P.50/Menhut-II/20, dated 31 December 2010, meant the 44 companies' applications for plantation forest licenses would be processed under pre-existing rules rather than the rules issued as part of the moratorium. The applications covered a total area of 2.9 million ha of secondary and primary forests. Greenomics Indonesia revealed that six companies were granted plantation forest licenses extending to 1.2 million ha of natural forest in Papua. In addition, another 21 companies were granted plantation forest licenses covering 1.03 million ha in Kalimantan. In addition to Papua and Kalimantan, plantation forest licenses were also granted to 17 companies for 678,034 ha across the Moluccas, East Nusa Tenggara, West Nusa Tenggara, West Sulawesi, Central Sulawesi, North Sulawesi, West Sumatra, South Sumatra, Jambi, Gorontalo and Bangka Belitung provinces. Greenomics Indonesia (2018) also reported him granting high numbers of plantation concession licenses from 2009-2014 covering 1.6 million ha or twenty-five times the area of Jakarta. The minister was a member of the National Mandate Party (PAN), one of Yudhoyono's strongest coalition partners. PAN was one of four coalition parties, the others being the National Awakening Party (PKB), Prosperous Justice Party (PKS) and United Development Party (PPP). Luttrell et al. (2014) argue that one many prerequisites for the success of REDD+ is party politics and its role in enabling or obstructing forest reform. As an incumbent, being loyal to coalition parties is essential for re-election. One of Yudhoyono's personal moves for strengthening his coalition was forging a closer relationship with the PAN chairman, by marrying his youngest son to the chairman's daughter.

Decentralization of forest management carries significant risks despite opportunities for equitable distribution of resources (Barret al. 2006). One risk is gray areas in licensing processes for land being exploited by patrons and clients (Varkkey 2013).

In most forested regions in Indonesia, district officials have used their authority to issue large numbers of small-scale timber extraction and forest conversion permits, and to impose new types of fees and royalties on log harvesting (Barr et al. 2001; McCarthy 2001a, 2001b *in* Barr et al. 2006). On the ground, district governments lack capacity for spatial planning and transparent permitting procedures, which has caused even higher rates of deforestation, conflicts and corruption in licensing processes (Aspinall et al. 2015). As a result, government decentralization created new tensions between central and regional governments as the central government under Yudhoyono was committed to move towards conservation, while regional governments prioritized increasing their own-source revenues.

In 2014, the Government reconsidered decentralization by replacing Law No. 32/2004 with new decentralization Law No. 23/2014. In forestry, the new legislation re-distributed the authority previously held by districts to the provincial level. Provincial governments were authorized to work on forest governance planning, forest management, utilization, rehabilitation, reclamation, protection, and conservation based on a jurisdictional context (Steni 2016).

The new decentralization legislation may have been promising for curbing deforestation by limiting the release of forest-related licenses. However, recent analysis by Sahide et al. (2016) believes the policy is a reconfiguration of a recentralization strategy. Forest management units (FMUs) established by the central government to replace district forestry services were seen as evidence of power struggles between national, provincial and district bureaucracies over the forest estate. Provincial governments, in coalition with the central bureaucracy, could claim authority over FMUs and restrict FMU establishment by district officials based on the argument the provincial government has more capacity to better handle forest resource management across multiple districts. Other evidence is that the central government has reorganized and reclassified conservation FMUs to maintain its control over conservation forests such as national parks. From the central government's point of view, it is harder to monitor, evaluate and share benefits with hundreds of districts than to coordinate with 34 provincial officials.

The new decentralization legislation also means the state forest estate is almost totally under the control of the President, where the popular political agenda of social forestry can be imposed, while allowing liberal investments on geothermal projects through a 2016 government regulation superseding Government Regulation No. 59/2007 on geothermal activities (Sahide et al. 2018).

4.4 REDD+ in the context of Indonesia's political economy

Forests and sustainability are still high on the national agenda, but hardly outcompete the development agenda. The global economic crisis has been a lesson learned for Indonesia and has constantly jeopardized the Indonesian economy during both administrations. Conservation and development were operated in parallel and demanded priority attention. Initially, REDD+ was an answer for Yudhoyono to find a balance between the two agendas and was established as an umbrella paradigm. During the Joko Widodo era, REDD+ was downgraded, becoming a project that only needed administering from the sub-directorate level.

Yudhoyono and Joko Widodo were the first and second presidents of Indonesia to be elected directly by the people through direct presidential elections. Although their power originated from their supporting parties, they have had a greater moral obligation than previous presidents to be responsible to their constituents due to being elected directly. Thus, both have tried to involve the public in different ways to support their presidencies. For example, Yudhoyono asked the public through a survey to decide his vice president (Kontan.co.id 2014a), while Joko Widodo established a transition house (*rumah transisi*) to provide access for the public to support his work programs (Kontan.co.id 2014b).

Yet, despite the government appearing more open to multiple stakeholders, it is still surrounded by elites from the New Order regime. Both Yudhoyono and Joko Widodo are products of the New Order. Yudhoyono was educated in a military academy during 1970-1973, educated with soldiers that have played key political roles, and married the daughter of the academy governor, Sarwo Edhie Wibowo. These were all modalities placing him among the New Order elite (Aspinall et al. 2015). Meanwhile,

the Jakarta Globe (31 October 2015 *in* Warburton 2016) argued that Joko Widodo can also be seen as a product of the New Order generation; born, bred and educated under the New Order system. This has indirectly influenced his developmentalism and his views on liberal reform. As a middle class businessman, Joko Widodo successfully built his furniture business in the late New Order years and was supported by its elites (Baker 2016 *in* Warburton 2016; Pebrianto 2019). Building alliances with elites from the New Order era has been unavoidable for them. Negotiating the interests of elites while asking for their support in creating a stable administration, shockproof against political pressure has been crucial for them to sustain power.

Yudhoyono was a strong presidential actor in the environment and global policy arena on forests and climate change, which Indonesia needed in order to move away from natural resources extraction during the 10 years of his presidential tenure. Yudhoyono had a reputation for being an 'internationalist' and was vocal and proactive in international climate change negotiations (McLellan 2015). He oversaw COP 13, which resulted in the Bali Action Plan, and included reducing emissions from deforestation and forest degradation (REDD+). He established the National Climate Change Council (DNPI) in 2008, and in 2009, despite the absence of legal obligations for developing countries, announced a voluntary commitment to reduce Indonesia's emissions. In 2009, he also oversaw the enactment of new environmental protection legislation (Law No. 32/2009), and in May 2010, he signed a Letter of Intent with the Government of Norway for financial support of up to USD 1 billion in return for a set of activities designed to realize reductions in forest-based emissions (McLellan 2015). This was followed by the declaration of the moratorium on new licenses for primary forest and peatlands in May 2011. Under his administration, REDD+ demonstration activities and pilot projects proliferated (McLellan 2015), and in 2013 he established the REDD+ Agency.

Meanwhile, President Joko Widodo delivered Indonesia's new emissions reduction target at COP 21. In his official statement, he cited four measures for reducing emissions in land and forest sectors, namely: (i) the One Map policy; (ii) the moratorium; (iii) a review of peatland utilization permits; and (iv) sustainable land and production forest management (tempo.co 2015). He extended

the moratorium on new licenses for primary forests and peatlands for a third term on 13 May 2015, but without addressing loopholes (see the next section) and then for a fourth term on 17 July 2017 adding even more loopholes (exemptions from the moratorium for corn, sago and soy plantations under the food security program). In January 2016, he established the Peatland Restoration Agency tasked with restoring 2 million ha of burnt/degraded peatlands in 7 priority provinces up to 2020. His administration initiated further instructions to strengthen forest fire prevention and handling measures; strengthen the government regulation on peatlands (2 December 2016); accelerate the One Map policy at a scale 1:50,000 (1 February 2016) including establishing the One Map Policy Acceleration Team; and a moratorium on the expansion of oil palm plantations and evaluation of oil palm plantation licenses (19 September 2018). Both presidents evidently showed commitment to enabling policies to support REDD+ continuity, even though many shortcomings remain.

Meanwhile, the enhanced role of parliament since the end of the Suharto era has obstructed reform due to the political system of coalitions in the country. Yudhoyono had closely observed Abdurrahman Wahid (Indonesia's fourth president) who was the first democratically elected President, and the first to be impeached. His impeachment was approved by the Indonesian Parliament. Yudhoyono learned the lesson that alienating political elites had been self-destructive for Wahid's presidency, and should therefore be avoided (Aspinall et al. 2015). Yudhoyono worked hard to maintain a good relationship with the elites. The trend has continued during Joko Widodo's tenure. Despite his promise to select professionals as his ministers, the balance between professionals and members of political elites in his cabinet is almost even. REDD+ may encounter challenges from political coalitions and opposition from those with strong interests in natural resources if politics and the economy continue to rely on extraction.

5 The REDD+ policy environment: Actors, policy events and policy processes

With the historic signing of the Paris Agreement in 2015 and its subsequent ratification under Indonesian law (GoI 2016a), implementation of climate change policies in Indonesia has arguably gained more traction. Under the Paris Agreement, the NDC was developed as the new policy anchor when talking about post-2020 climate change targets and policies. At the same time, the change of administration from President Yudhoyono to President Joko Widodo in 2014 brought significant institutional changes that raised questions regarding continuity of the pre-2020 climate change policies such as the National Action Plan on Greenhouse Gas Emissions Reduction (RAN-GRK) as well as results of the previous policy processes and institutions that no longer exist or have transformed into other forms.

This section attempts to analyze continuity and/or discontinuity in terms of policy environment related to REDD+ after the 2015 administration and institutional changes by examining changes in policy actors, events and processes in the 2015-2018 period. It begins with a description of broader climate change policy context both internationally and nationally, followed by the legal and institutional framework for REDD+ implementation, implementation of REDD+ on the ground, and an analysis of actor dynamics. It concludes with an analysis of the future of REDD+.

5.1 The broader climate change policy context

5.1.1 Paris Agreement

The Paris Agreement was accepted by the COP 21 on 12 December 2015 in Paris. It is the first climate agreement that legally binds both developed and developing countries. It entered into force on 4 November 2016 and to date, 184 of 197 parties to the Convention have ratified the agreement, making

it a nearly global agreement to combat climate change (UNFCCC 2016). All parties to the Paris Agreement have submitted their climate pledges or NDCs, with 183 parties submitting their first NDC and 1 party their second NDC.

The Paris Agreement's goals are to strengthen the global response to the threat of climate change by keeping the global temperature rise this century below 2 degrees Celsius above pre-industrial levels, and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. However, it also aims to increase the ability of countries to deal with the impacts of climate change, and make finance flows consistent with a low GHG emissions and climate-resilient pathway.

In addition to its broad scope, the Paris Agreement also mentions in its preamble the fundamental priority to safeguard food security and end hunger; a just transition of workforce; the importance of ensuring integrity of all ecosystems, including oceans; and protection of biodiversity, sustainable lifestyles and production and consumption patterns; and respect, promotion, and consideration for parties' respective obligations to human rights when taking actions to address climate change, including the rights of indigenous peoples and local communities, and gender equality and women's empowerment.

The Paris Agreement requires all parties to put forward their best efforts through NDCs, which contain targets and plans regarding domestic mitigation and adaptation measures, and to strengthen these efforts in the years ahead. This includes requirements that all parties report regularly on their emissions and on their implementation efforts. Parties' collective progress towards achieving the purpose of the agreement to inform further individual actions by parties will be assessed in global stock takes every 5 years.

However, the combined NDCs are deemed insufficient to meet the goal of limiting the global temperature rise to 1.5 - 2 degrees C. Indeed it is estimated that global temperatures will rise 2.7 - 3.7 degrees C over the next century (Levin and Fransen 2015). Countries party to the Paris Agreement are thus urged to raise their mitigation ambitions.

With the ratification of the Paris Agreement into Indonesian law, the rules, modalities, procedures, and guidelines produced by climate negotiations under the UNFCCC will affect Indonesia's climate policies. Consequently, the 2018 Katowice Climate Package, which sets the rules to operationalize the Paris Agreement, including regarding mitigation, adaptation, finance, transparency, global stock takes, and implementation and compliance needs to be considered in national policies. Meanwhile, REDD+ and its implementation framework are firmly enshrined in Article 5 of the Paris Agreement, which urges parties to take action to conserve and enhance GHG sinks and reservoirs, including forests. Parties are encouraged to implement and support policy approaches and positive incentives for activities relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+), including through results-based payments. The inclusion of REDD+ in the Paris Agreement is seen as providing the necessary political signal to mobilize much-needed action (and funding) around forests.

5.1.2 Mitigation

National mitigation policies in Indonesia can be divided into two categories: those formulated and implemented before the Paris Agreement/NDC regime when emissions reductions by Indonesia and other developing countries were still voluntary in nature, and those formulated after the Paris Agreement/NDC regime, which is internationally legally binding. The first category includes the National Action Plan on Greenhouse Gas Emissions Reduction (RAN-GRK), implemented in the 2010-2020 period to achieve Indonesia's voluntary emission reduction pledge of 26%-41% from business as usual levels by 2020. Parts of the RAN-GRK were proposed internationally as NAMAs (Nationally Appropriate Mitigation Actions) to seek international funding and technical assistance.

Indonesia formulated and submitted an INDC in 2015, during a transition period when non-ministerial state agencies in charge of climate change affairs in Indonesia, the National Climate Change Council (DNPI) and the REDD+ Agency (BP-REDD+) had been dissolved while the new institution in charge, the Directorate General for Climate Change Control (*Direktorat Jenderal Pengendalian Perubahan Iklim* or DJPPI), had not been fully consolidated. Then in 2016, after the Paris Agreement, Indonesia submitted its NDC to be implemented in the 2021-2030 period. Parallel to that, Indonesia, through the National Development Planning Agency (Bappenas) was also developing a Low Carbon Development Planning Presidential Regulation (*Perpres PPRK*), which was set to replace the RAN-GRK Presidential Regulation (*Perpres RAN-GRK*). However, in 2020, a draft presidential regulation was circulated combining both PPRK and the NDC under one regulation. In 2019, a Low Carbon Development Indonesia (LCDI) report was launched, but has not yet been developed into a regulation. The continuity between RAN-GRK, INDC, NDC and PPRK will be examined further.

From RAN-GRK to low carbon development planning

RAN-GRK or the National Action Plan on Greenhouse Gas Emissions Reduction was the main climate change policy in the pre-2020 period. Mitigation activities in RAN-GRK were designed to be implemented in the 2010-2020 period although the regulation was issued in 2011. Developed at both national and provincial levels, RAN-GRK aimed to achieve unconditional emissions reductions of 26% from a BAU scenario up to 41% with international support by 2020. Backed by the necessary legal basis (a presidential regulation) and equipped with an implementation mechanism that could reach down to subnational levels, RAN-GRK was adopted at the provincial level as RAD-GRKs (Regional Action Plans on Greenhouse Gas Emissions Reduction). By 2013, all thirty-three provinces in Indonesia (now thirty-four) had developed RAD-GRKs with the facilitation of the National Development Planning Agency (Bappenas) and the Ministry of Home Affairs (*Kemendagri*). Together, RAN- and RAD-GRK served as the legal bases for planning, implementing and monitoring activities to reduce GHG emissions at national and regional levels to achieve Indonesia's emissions reduction targets in the pre-2020 period. Some of the actions listed in RAN-GRK were proposed

internationally as parts of Nationally Appropriate Mitigation Actions (NAMAs) to seek funding and assistance before emissions reductions by developing countries became legally-binding in 2015.

The RAN-GRK included mitigation activities in five sectors: agriculture, forestry and peatlands, energy and transportation, industry, and waste management, the same five sectors adopted later in the 2016 NDC document. In RAN-GRK, REDD+ was mentioned as one strategy to achieve mitigation targets in the forestry and peatlands sector, as also mentioned in the NDC. Sectoral ministries held full authority with regard to implementation of mitigation activities in their respective sectors, including in developing and implementing policies, plans and programs. RAN-GRK was predominantly about forests and peatlands, as can be seen in Table 12 below.

Bappenas served as technical coordinator in RAN-GRK implementation while the Coordinating Minister for Economic Affairs acted as general coordinator. The Secretariat for RAN-GRK implementation was housed under Bappenas. RAN-GRK was to be reviewed and adjusted periodically by the Head of Bappenas, who reported results to the Coordinating Minister for Economic Affairs. Bappenas also coordinated the monitoring, evaluation and reporting of RAN-GRK technical implementation.

With the merging of the Ministry of Forestry and Ministry of Environment in 2015, implementation of emissions reduction policies in the forestry and peatlands as well as waste management sectors became the responsibility of the new Ministry of Environment and Forestry. Coordination, synergy, integration and leadership of climate change-related affairs, including monitoring, reporting and verification of mitigation and adaptation actions

fell under the responsibility of the Directorate General for Climate Change Control (DJPPPI) under MoEF, which is also the National Focal Point for UNFCCC. The NDC regime, however, is still in the preparatory phase and the first commitment period will commence in 2021 and continue to 2030. Therefore, in the pre-2020 period, coordination, monitoring and reporting of mitigation actions still rested with Bappenas under RAN-GRK (and adaptation under RAN-API). All ministries were mandated to report the implementation of action plans in RAN-GRK to Bappenas at least once a year. RAN-GRK was set to be reviewed in 2015-2017 and fully implemented and verified in the period of 2017-2019 as seen in RAN-GRK implementation roadmap from Bappenas below:

As Figure 30 shows, in the 2017-2019 period RAN-GRK should have been in the verification period where emissions reductions resulting from RAN-GRK were verified.

As shown in Table 12, forestry and peatlands was the dominant sector in RAN-GRK as well as in the NDC, comprising 88% of the total unconditional emissions reduction target and 87% of the total conditional target. The strategy to reach emissions reduction targets in this sector included: (i) reducing deforestation and forest degradation; (ii) enhancing carbon stock through tree replanting; (iii) implementing sustainable forest management; (iv) preventing forest and land fires; (v) managing water levels in swamp areas; and (vi) deploying low GHG technologies in land management for agriculture. All except the last of these can be categorized as REDD+. More concrete planned mitigation activities in the forestry and peatlands sector under RAN-GRK are shown in Table 13 below.

Table 12. Emissions reduction targets from five mitigation sectors in RAN-GRK

| No. | Sector | ER target 26% (GtCO ₂ e) | ER target 41% (GtCO ₂ e) | Action plans (Core) | Activities (Core) |
|-----|---------------------------|--|--|------------------------|----------------------|
| 1 | Forestry and peatlands | 0.672 (88%) | 1.039 (87%) | 13 | 21 |
| 2 | Waste management | 0.048 (6%) | 0.078 (7%) | 2 | 4 |
| 3 | Energy and transportation | 0.038 (5%) | 0.056 (5%) | 26 | 43 |
| 4 | Agriculture | 0.008 (1%) | 0.011 (1%) | 6 | 6 |
| 5 | Industry | 0.001 (0%) | 0.005 (0%) | 3 | 4 |
| | TOTAL | 0.767 (100%) | 1.189 (100%) | 50 | 78 |

Source: Presidential Regulation No. 61/2011 (Annex), processed

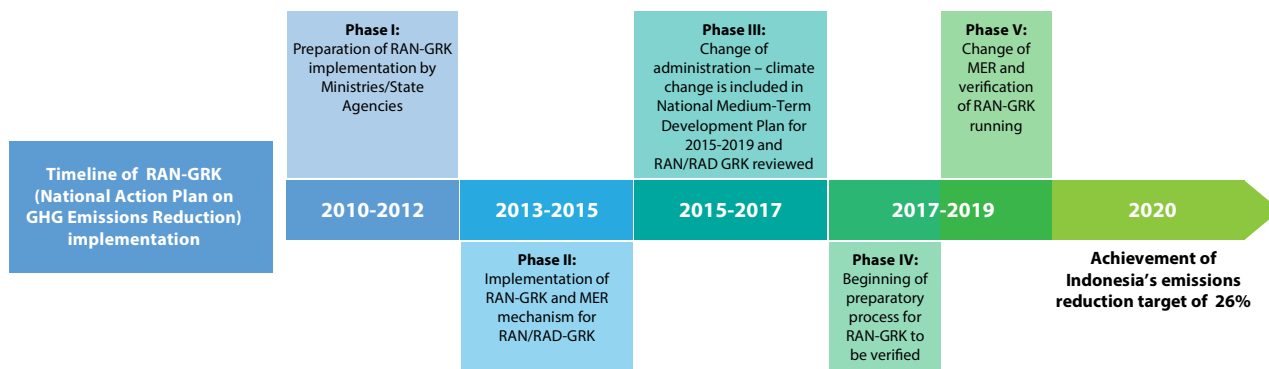


Figure 30. RAN-GRK timeline

Source: Bappenas 2015

Table 13. Mitigation activities in the forestry and peatlands sector in RAN-GRK

| No. | Action plan | Activities | Activity targets | Emissions reduction targets (Mt CO ₂ e x million) | Period | Responsible ministry |
|-----|--|--|------------------|--|-----------|-------------------------|
| 1. | Forest area gazettement | Forest area boundary demarcation (outer boundaries and function boundaries) | 25,000 km | 123.41 | 2010-2014 | MoF (now MoEF) |
| 2. | Increase of plantation forest | Allocation for industrial timber plantations (HTI) and community timber plantations (HTR) | 3,000,000 ha | 110.10 | 2010-2014 | MoF (now MoEF) |
| 3. | Management of peatland for sustainable agriculture | Research and development of land resources (including peatland) to develop agriculture land management | 325,000 ha | 103.98 | 2011-2020 | Ministry of Agriculture |
| 4. | Development of social forestry | | | 100.93 | 2010-2014 | MoF (now MoEF) |
| a. | | Determination of work area for Community Forestry or Village Forest | 2,500,000 ha | 91.75 | 2010-2014 | MoF (now MoEF) |
| b. | | Facilitation of business partnerships in HTR | 250,000 ha | 9.18 | 2010-2014 | MoF (now MoEF) |
| 5. | Improvement of agriculture management in abandoned and degraded peatlands to support plantation, animal husbandry and horticulture | Rehabilitation, reclamation and revitalization of abandoned and/or degraded peatlands, peatland in agriculture areas, and optimization of non-food crop land | 250,000 ha | 100.75 | 2011-2014 | Ministry of Agriculture |
| 6. | Rehabilitation of forest and land and forest reclamation in priority watersheds | | | 91.75 | 2010-2014 | MoF (now MoEF) |
| a. | | Rehabilitation of critical land in priority watersheds | 1,954,000 ha | 71.71 | 2010-2014 | MoF (now MoEF) |
| b. | | Forest rehabilitation in priority watersheds | 500,000 ha | 18.35 | 2010-2014 | MoF (now MoEF) |
| c. | | Rehabilitation of mangrove/ forest in coastal areas | 40,000 ha | 1.47 | 2010-2014 | MoF (now MoEF) |
| d. | | Development of city forest | 6000 ha | 0.22 | 2010-2014 | MoF (now MoEF) |

Continued on the next page

Table 13. Continued

| No. | Action plan | Activities | Activity targets | Emissions reduction targets (Mt CO ₂ e x million) | Period | Responsible ministry |
|-----|--|---|---|--|-----------|---|
| 7. | Development of conservation and essential ecosystem areas and protection forest | | | 91.27 | 2010-2014 | MoF (now MoEF) |
| a. | | Improvement of essential ecosystems | 10% | 41.5 | 2010-2014 | MoF (now MoEF) |
| b. | | Handling of encroachment in conservation forest and protection forest | 12 priority provinces | 49.77 | 2010-2014 | MoF (now MoEF) |
| 8. | Development of Forest Management Units (FMUs) | Development of FMUs | 120 units | 31.15 | 2010-2014 | MoF (now MoEF) |
| 9. | Forest estate utilization planning and improvement of forest estate utilization | | | 24.32 | 2010-2014 | MoF (now MoEF) |
| a. | | Granting logging (IUPHHK-HA) or ecosystem restoration (IUPHHK-RE) licenses on logged over areas | 2,500,000 ha | 22.94 | 2010-2014 | MoF (now MoEF) |
| b. | | Increasing productivity of non-timber forest products/ environmental services | | 1.38 | 2010-2014 | MoF (now MoEF) |
| 10. | Forest fire control | Reducing hotspots in Kalimantan, Sumatra and Sulawesi | 20%/yr from 2005-2009 average level with 67.2% success rate | 21.77 | 2010-2014 | MoF (now MoEF) |
| 11. | Improvement, rehabilitation, operation and maintenance of swamp reclamation network, including peatlands | | | 5.23 | | Ministry of Public Works and Public Housing |
| a. | | Improving swamp reclamation network | 10,000 ha | | 2010-2014 | |
| b. | | Rehabilitation of swamp reclamation network | 450,000 ha | | 2010-2014 | |
| c. | | Operation and maintenance of swamp reclamation network | 1,200,000 ha | | 2010-2014 | |
| 12. | Development of environmental services utilization | Implementation of DA REDD+ in conservation areas (peat forest) | 2 activities (Jambi and Central Kalimantan) | 3.67 | 2010-2014 | MoF (now MoEF) |
| 13. | Investigation and forest security measures | Resolving illegal logging, illegal mining and forest fires | 75% | 2.30 | | MoF (now MoEF) |

Source: Presidential Regulation No. 61/2011 (Annex), processed

As Table 13 shows, the top five mitigation action plans with the largest emissions reduction targets under RAN-GRK were: (i) forest area gazettement; (ii) increase of timber plantation area; (iii) research and development of land resources to develop agriculture land management including on peatlands; (iv) development of social forestry; and (v) development of agriculture management in abandoned and degraded peatlands to support plantation, animal husbandry and horticulture.

Some mitigation action plans/activities, such as granting more logging licenses (IUPHHK-HA), developing peatlands for plantations, animal husbandry and horticulture, and allocating more timber plantation (IUPHHK-HT) and community timber plantation (HTR) licenses were questionable on the grounds they might in fact drive deforestation and forest degradation or emissions releases. Without clear criteria and strict monitoring on implementation, and social and environmental safeguards, these activities risked increasing emissions as well as social conflicts. Expanding timber plantations to reduce emissions may seem especially counterproductive. However, as stated in the 2010 Indonesia Climate Change Sectoral Roadmap (ICCSR) compiled by Bappenas, with no investment in productive industrial and community timber plantations (HTI/HTR), wood demand from domestic, regional and global markets would threaten the remaining natural forest and jeopardize future REDD+ activities. The Roadmap calculated that around 6 to 7 million ha of HTI/HTR were required in 2020 for the development of wood industries and to ensure employment for 675,000-836,000 people in the sector. As Indonesia already had around 3 million ha of productive plantations, an additional 3-4 million would be required. The Roadmap further recommended a scenario of mitigation in the forestry sector involving a mix of activities relying on timber plantation and forest management unit (FMU) development. The mix of activities was as follows: (i) industrial plantations established on dry land, where KPHs have been developed; (ii) emissions reductions to come from better management of production, conservation and protection forests under the FMUs; (iii) some modest REDD activities to be implemented during the first period. In this scenario, 4 million ha of HTI/HTR would be planted on 24 million ha of FMUs. Emissions reductions would come from better management of natural forest, less illegal

logging and fewer fires. This scenario was claimed to deliver the best mitigation results and the lowest abatement cost per unit of emission reduction. The Roadmap also listed REDD+, including reducing peat degradation, as the most promising mitigation measure and more effective than rehabilitating forestland. However, the ICCSR failed to take potential for increased social conflicts and land grabbing due to expansion of timber plantations into account.

Mitigation activities pertaining to peatland in RAN-GRK also raised questions because they included agriculture development including plantations on peat, which could be construed as justifying further peatland clearing for oil palm plantations. RAN-GRK also included construction, maintenance and improvement of a peat reclamation network, which may include draining swamp to get more land to cultivate or use. Some activities such as “land optimization for non-food crops” were also unclear in terms of what they actually meant on the ground. In addition to questionable activities, none of the planned activities in RAN-GRK directly addressed drivers of deforestation, for example halting expansion of extractive industries to forests, including palm oil, logging, mining and timber plantations. The moratorium on new licenses for primary forests and peatlands issued in the same year as this regulation, for example, was not mentioned anywhere in the action plan.

To gauge the success or failure of mitigation actions under RAN-GRK, monitoring, evaluation and reporting (MER) was a very important mechanism. MER is also used as the basis for developing National Communications and Biennial Update Reports (BUR) to the UNFCCC. At the national level, sectoral ministers/heads of agencies implemented MER activities and reported results to Bappenas. At the provincial level, heads of provincial Government Work Units (SKPDs) implemented MER activities based on the Technical Guidelines issued by Bappenas and coordinated by governors.

MER for RAN- and RAD-GRK was conducted through two mechanisms. First, monitoring of mitigation actions at national and provincial levels, which was conducted according to existing development monitoring and reporting channels. Second, GHG inventory by the Ministry of

Environment and Forestry. Based on the regulation, the Ministry of Environment (now the Ministry of Environment and Forestry) would establish a National MRV Commission with the primary tasks of assessing the results of emissions reduction resulting from mitigation actions and managing the National Registry System.

From INDC to NDC

At COP 20 in Peru in 2014, developing countries were asked to submit Intended Nationally Determined Contributions (INDCs). Indonesia submitted its INDC to the UNFCCC on 24 September 2015 and then, at COP 21 in Paris, President Joko Widodo announced that Indonesia was committed to reducing its emissions unconditionally by 29% from BAU levels by 2030 up to 41% with international support (UNFCCC n.d.).

Indonesia's INDC listed policy measures to reduce emissions in the forestry sector, which included the moratorium on licenses for primary forests and peatlands, RAN-GRK and REDD+. The INDC also listed seven implementation measures or strategies that would be carried out by the government to reduce emissions, namely: (i) effective land use and spatial planning; (ii) sustainable forest management, including social forestry; (iii) restoring functions of degraded ecosystems; (iv) improved agriculture and fishery productivity; (v) energy conservation; (vi) promoting renewable energy resources; and (vii) improving waste management. All of the above, with the exception of effective land use and spatial planning, were also mentioned in RAN-GRK.

The INDC was short-lived. After the Paris Agreement, Indonesia was obliged to submit a mandatory albeit self-determined emissions reduction target in the form of a Nationally Determined Contribution (NDC). Indonesia chose not to submit its INDC as its first NDC but submitted an updated document. Indonesia's first NDC was developed and submitted to the UNFCCC by the current National Focal Point to the UNFCCC, the Directorate General of Climate Change Control under the Ministry of Environment and Forestry on 6 November 2016 (GoI 2016a). Indonesia's First NDC contains sections about mitigation, adaptation, strategic approach, planning processes, information to facilitate clarity, transparency and understanding (CTU), transparency framework, international

support, Indonesia's low carbon and climate resilience strategy, and an Annex, which contains the assumptions used for projected BAU and emission reductions for all sector categories (see GoI 2016a). Unlike the INDC, it has clear, quantitative emissions reduction targets in each of the five sectors, although the policy steps or strategic approaches are still not elaborated further. Indonesia's NDC clearly goes beyond mitigation but it contains no quantitative targets with regard to adaptation.

REDD+ is explicitly mentioned as an important component to reach NDC targets from the land use sector (GoI 2016a). In December 2016, Indonesia submitted a REDD+ FREL (Forest Reference Emission Level) to the UNFCCC Secretariat, which covered deforestation, forest degradation and peat decomposition (GoI 2016a), but excluded emissions from peat fires.

With regard to activities covered in the NDC to achieve unconditional reductions of 26% from BAU by 2020, there is no change from the earlier INDC. Measures mentioned to reach the emissions reduction target are: (i) effective land use and spatial planning; (ii) SFM, including social forestry; (iii) restoring functions of degraded ecosystems; (iv) improved agriculture and fishery productivity; (v) energy conservation; (vi) promoting renewable energy resources; and (vii) improved waste management (GoI 2016a).

Mitigation targets for all sectors in Indonesia's first NDC are shown in Table 14 below.

As Table 14 shows, the emissions reduction from the forestry sector constitutes a 70% (unconditional) to 91% (conditional) reduction from a BAU scenario by 2030, and a 66-90% reduction from 2010 levels. It is 60-80% of the whole 29%-41% target. However, the NDC also specifies that this target implies annual deforestation of 325,000 ha, which means 3.25 million ha of forest, the size of Belgium, will be deforested by 2030, even when attaining the NDC target (Rainforest Foundation Norway n.d.).

According to Climate Action Tracker (CAT), Indonesia's NDC (excluding LULUCF) is not consistent with the Paris Agreement temperature limit but would lead to a warming of between 3 to 4 degrees Celsius and is therefore rated "highly insufficient," but mostly because of its inadequate energy policies (Climate Action Tracker n.d.).

Table 14. Projected BAU and emissions reductions from each sector

| No | Sector | GHG Emission level 2010* | GHG Emission Level 2030 (MTon CO ₂ e) | | | GHG Emission Reduction (MTon CO ₂ e) | | | | Annual Average Growth BAU (2010-2030) | Average Growth 2000-2012* |
|--------------|-------------|--------------------------|--|--------------|--------------|---|--------------|------------|------------|---------------------------------------|---------------------------|
| | | | Bau | CM1 | CM2 | % of Total Bau | | CM1 | CM2 | | |
| 1 | Energy* | 453.2 | 1,669 | 1,355 | 1,271 | 314 | 398 | 11% | 14% | 6.7 | 4.50% |
| 2 | Waste | 88 | 296 | 285 | 270 | 11 | 26 | 0.38% | 1% | 6.3% | 4.00% |
| 3 | IPPU | 36 | 69.6 | 66.85 | 66.35 | 2.75 | 3.25 | 0.10% | 0.11% | 3.4% | 0.10% |
| 4 | Agriculture | 110.5 | 119.66 | 110.39 | 115.86 | 9 | 4 | 0.32% | 0.13% | 0.4% | 1.30% |
| 5 | Forestry** | 647 | 714 | 217 | 64 | 497 | 650 | 17.2% | 23% | 0.5% | 2.70% |
| TOTAL | | 1,334 | 2,869 | 2,034 | 1,787 | 834 | 1,081 | 29% | 38% | 3.9% | 3.20% |

Notes: * including fugitive
 ** including peat fire
 CM1 = Counter Measure (*unconditional mitigation scenario*)
 CM2 = Counter Measure (*conditional mitigation scenario*)

Source: Government of Indonesia 2016a

The rights language in the NDC, however, is an improvement on the earlier INDC. It explicitly recognizes the State's duty to respect, promote and consider human rights, including the rights of customary communities (*masyarakat hukum adat*) known internationally as indigenous peoples, local communities, migrants, children, persons with different abilities and people in vulnerable situations, as well as gender equality, women's empowerment and intergenerational equity, in line with the Paris Agreement. Civil society is also mentioned in the context of enhancement of engagement of non-party stakeholders.

NDC mitigation targets in the forestry sector are translated into more concrete sub-targets. The first of these is reducing deforestation to only 450,000 ha annually up until 2020, and then to 325,000 ha annually from 2021-2030. The second is increased application of sustainable forest management principles in natural forests (reduced degradation) and timber plantations. The first and second targets are categorized under the REDD+ scheme (MoEF 2018a). The third is rehabilitation of 12 million ha of degraded land by 2030, which means 800,000 ha per year with a 90-percent survival rate. The fourth is restoration of 2 million ha of peatlands by 2030 with a 90-percent success rate (MoEF 2018a).

In October 2017, the Directorate General of Climate Change Control (DJPP) issued an NDC implementation strategy, covering nine programs: (i) development of ownership and commitment;

(ii) capacity building; (iii) enabling (policy) environment; (iv) development of work framework and communication network; (v) one GHG data policy; (vi) formulation of policies, plans and programs for intervention to secure state funding and international support; (vii) formulation of NDC implementation guidance for central and regional government; (viii) NDC implementation through policies, plans and programs coordinated by MoEF and Bappenas, and (ix) monitoring and review and adjustment when needed before 2020 (MoEF 2017a).

In terms of activities, for unknown reasons the scope of NDC implementation is not explicit in the NDC document or the NDC implementation strategy. But it can be ascertained from the NDC implementation monitoring decision issued by the Minister of Environment and Forestry through Decree SK 679/2017. According to the decree, the scope of emissions reduction activities in the forestry sector subject to monitoring includes the following nine activities: (i) reduction of deforestation rate in all forest functions, including conservation forest; (ii) reduction of forest degradation in all forest functions, including conservation forest; (iii) increase in timber plantations in non-forest areas, (iv) reduction of forest and land fires; (v) sustainable forest management, including ecosystem restoration; (vi) improvement of timber plantation productivity; (vii) peatland restoration and peatland ecosystem management; (viii) rehabilitation of degraded land; and (ix) rehabilitation of ex-mining areas (MoEF 2017b).

The DJPPI has measured Indonesia's emissions reduction achievements against the 2030 NDC target, and not the 2020 RAN-GRK target measured by Bappenas. Indonesia's emission reduction achievement in 2017, for example, was 24.5% of the 29% percent by 2030 (MoEF 2019a).

As mentioned above, there is no apparent substantive conflict between the NDC and PPRK low carbon development plan, which succeeds RAN- and RAD-GRK in 2021-2030 period. The adopted targets are consistent and both processes reference each other, at least on paper. In terms of implementation, however, it is still unclear how NDC mitigation activities, including REDD+, will be operationalized at the subnational (provincial and district) levels and what their intersections are with the PPRK process (as well as other processes such as the Sustainable Development Goals (SDGs), which also fall under Bappenas coordination). These will be determined by newly developed or existing institutional settings. MoEF counterparts at subnational levels are regional environment and forestry offices as well as various specific offices (*Balai*), which correspond to each directorate general under the ministry. Meanwhile, Bappenas counterparts at subnational levels are Regional Development Planning Agencies (*Bappeda*). The tried and tested method based on prevailing laws and regulations is by integrating NDC mitigation and adaptation activities, including REDD+, into regional medium-term development plans (RPJMD), regional budgets (APBD), and regional government organizations' strategic plans and work plans (*Renstra* and *Renja*). The process will largely be under Bappenas and Ministry of Home Affairs coordination. However, in the past, the REDD+ Agency also developed MoUs with regional governments to implement REDD+, mostly in the preparatory phase, as shortcuts. How it will play out in the REDD+ implementation phase will be determined by how well Bappenas, the Ministry of Environment and Forestry, Ministry of Home Affairs, and Ministry of Finance coordinate and cooperate not only at the national level but also at subnational levels.

5.1.3 Adaptation

To complement mitigation actions, in 2013, development of a National Action Plan for Climate Change Adaptation (RAN-API) was initiated. The adaptation plan intended to gather

the necessary adaptation measures and improve the required adaptive capacity, especially among farmers, fishing families and coastal communities vulnerable to climate change. Based on the results of vulnerability assessments, 15 regions are particularly vulnerable to climate change impacts: western and southern parts of Sumatra; western and eastern parts of Java; Papua; almost all regions of Bali and Nusa Tenggara; northern parts of Kalimantan; and the northern part of Sulawesi. Efforts will be carried out in future to encourage vulnerable regions to carry out adaptation. Currently, DKI Jakarta, North Sumatra and East Nusa Tenggara provinces, which are among the most vulnerable regions in Indonesia, have started to develop Climate Change Vulnerability Assessments as the basis for developing Climate Change Adaptation Strategies and Actions. Adaptation actions are nationally required to secure national economic, social and food security activities, as well as to protect the livelihoods and wellbeing of the people.

Specifically, RAN-API targets are aimed at: (i) developing economic security; (ii) developing (social) life structures resilient to climate change impacts (livelihood resilience); (iii) maintaining environmental ecosystem service sustainability (ecosystem resilience); (iv) strengthening regional resilience especially in urban areas, coastal areas and small islands; and (v) supporting ecosystems, including data and information collection, capacity building as well as research and development.

The RAN-API document was developed by considering the needs of the people. The gender aspect was considered according to input from the Policy Paper on Gender Mainstreaming in Climate Change Adaptation (Bappenas 2012). The RAN-API document has been integrated into Disaster Risk Reduction issues, which relate closely to climate change adaptation.

Adaptation efforts to address adverse climate change impacts are dependent on the characteristics of regions and climate conditions. Therefore, it was necessary to have climate change adaptation risk and strategy assessments in the development of indicators and in the reporting of climate change impact program responses. In this framework, the initial implementation of RAN-API was formulated into adaptation actions in 15 pilot cities/regions.

In relation to climate change adaptation, data and information on vulnerable areas and communities were needed as the basis for building the capacity of the people in addressing and adapting to adverse impacts of climate change. This need was supported by the availability of climate data from the Meteorology, Climatology and Geophysics Agency (BMKG) and the Data Information and Vulnerability Index System (SIDIK) in the Ministry of Environment. Disaster Vulnerability indicators and Resilience indicators were developed to identify necessary adaptation steps and adaptive capacity, and to monitor RAN-API implementation progress.

Compared to mitigation, adaptation action is still at a very early stage of implementation. The government has yet to determine the baseline for adaptation, ascertain data needs, set up a working group at the national level, or conduct an analysis of risk status based on existing parameters in the NDC (MoEF 2018a).

5.2 Legal and institutional framework for REDD+ implementation

5.2.1 Legal and institutional framework

Institutional setting

As explained earlier, on 23 January 2015, through Presidential Regulation No. 16/2015 on Ministry of Environment and Forestry, President Joko Widodo abolished two pivotal state institutions pertaining to climate change in Indonesia: the National Climate Change Council (DNPI) established in 2008 and the REDD+ Agency established in 2013. Their tasks and functions were absorbed by the newly established Ministry of Environment and Forestry (MoEF).¹

Many parties expressed concerns about the dissolution of DNPI and the REDD+ Agency. According to Agus Purnomo, the former DNPI Head of Secretariat, the REDD+ Agency dissolution was a breach of the Letter of Intent (LoI) signed by the governments of Indonesia and Norway because it contained a clause on establishing a special body for REDD+ implementation, which reports directly to the

President (Echelon 1). By being submerged under MoEF, the REDD+ department was downgraded two steps to become only a sub-directorate (Echelon 3) that does not report directly to the President. Purnomo also expressed concern regarding cross-sectoral and cross-ministerial coordination that would be handled only by a directorate general under a sectoral ministry, which was bound to create authority problems when it came to coordinating with other ministries (Fajar 2015).

Some civil society organizations expressed fear that the progressive agenda pushed by civil society would stall due to the strong bureaucratic structure of the previous Ministry of Forestry. Abdon Nababan, Secretary General of the Indigenous Peoples' Alliance of the Archipelago (AMAN) felt dissolving the REDD+ Agency risked stalling the transformative process to recognize the rights of indigenous peoples. According to Bustar Maitar from Greenpeace, the REDD+ Agency brought about much-needed acceleration of change to improve land governance, especially because it was situated outside the business-as-usual ministries (Satari 2015a).

On the other hand, the Minister of Environment and Forestry, Siti Nurbaya, was confident the merger would strengthen Indonesia's efforts because institutional reach to subnational levels was ensured by distributing the two institutions' tasks and functions between several directorate generals under MoEF (Susanto 2015).

The Ministry of Environment and Forestry (MoEF) is now the main central institution with regard to REDD+. Under MoEF, REDD+ rest in the hands of the Directorate General for Climate Change Control (DJPPPI), which also serves as the National Focal Point for UNFCCC. DJPPPI is tasked with the formulation and implementation of policies pertaining to climate change, especially in the following fields: (i) mitigation, (ii) adaptation, (iii) eradication of ozone-depleting substances, (iv) mobilization of resources, (v) GHG inventory and MRV, and (vi) prevention and suppression of forest and land fires, which are in fact their core business.² DJPPPI is led by a director general (Echelon

1 See Article 59 of Presidential Regulation No. 16/2015.

2 See Article 28 of Presidential Regulation No. 16/2015.

I) with one secretariat and five directorates (led by directors at Echelon II level). The five directorates are for Adaptation, Mitigation, GHG Inventory and MRV, Sectoral and Regional Resources Mobilization, and Forest and Land Fire Management (MoEF 2015d).

REDD+ is administered by a sub-directorate under DJPPI. The REDD+ Sub-Directorate is housed under the Directorate of Mitigation (at Echelon 3 level). It is divided into two units: REDD+ Governance and REDD+ Evaluation and Monitoring. Meanwhile, GHG inventory and MRV that support REDD+ (and other mitigation activities) are housed under the Directorate of GHG Inventory and MRV, while UNFCCC facilitation is housed under the Directorate of Resources Mobilization. The first Director General of Climate Change (2015-2018), Dr. Ir. Nur Masripatin, M.Sc. previously served as Deputy for Governance and Institutional Relations in the REDD+ Agency (2014-2015) and Director of the Center for Forest and Forest Product Standardization (2010-2014) (The Carbon Institute n.d.). She was succeeded temporarily by Dr. Agus Justianto, Head of the Research, Development and Innovation Agency before eventually being replaced in July 2018 by Dr. Ir. Ruandha Agung Sugardiman, M.Sc., who previously served as Director of Inventory and Monitoring of Forest Resources under the Directorate General of Forestry Planning and Environmental Governance (MoEF 2019a). Nur Masripatin is now serving as Senior Advisor to the Minister of Environment and Forestry on Climate Change and International Conventions, and is the National Focal Point (NFP) of Indonesia for UNFCCC.

DJPPI, however, only formulates and implements procedural regulations regarding REDD+ (as well as coordinating, monitoring, evaluating and reporting REDD+ implementation), while “substantive” REDD+ policies, programs and

activities, such as the moratorium, oil palm moratorium, peatland protection, peatland restoration, sustainable forest management, social forestry, critical land rehabilitation, etc. are formulated and implemented by other directorate generals under MoEF.

The main organizational unit under MoEF handling the moratorium policy, for example, is the Directorate General of Forestry Planning and Environmental Governance (DJPKTL), which revises the moratorium map (PIPPB) every six months, determining the final size of area under moratorium protection. In the case of palm oil policy, suspension of forest estate release for oil palm plantations and evaluation of forest estate release decisions for oil palm plantations are also mainly regulated by DJPTKL. For peatland protection and restoration, the relevant organizational units in MoEF are the Directorate General of Pollution and Environmental Damage Control (DJPPKL), as well as the Peatland Restoration Agency, a temporary agency until (2020), and the Directorate General of Environmental Law Enforcement (DJ-GAKKUM). The body in charge of sustainable forest management is the Directorate General of Sustainable Production Forest Management (DJPHPL), which commands an area of 30.6 million ha (the size of logging, timber plantation and ecosystem restoration concessions) (MoEF 2018c). With regard to critical land and forest rehabilitation, another pillar of mitigation in the forestry sector, the body in charge is the recently renamed Directorate General of Watershed Management and Forest Rehabilitation (Presidential Regulation No. 92/2020 on MoEF), while social forestry implementation rests within the Directorate General of Social Forestry and Environmental Partnerships (DJPSKL). Meanwhile, the coordination of planning, programs and budgets and the coordination of activities for the whole MoEF is in the hands of the Secretariat General.

Table 15. Summary of division of emissions reduction tasks and responsibilities within MoEF

| No. | Emissions Reduction Activities in the Forestry Sector | Main Directorate General Responsible | Note |
|-----|---|--|---|
| 1. | Reduction of deforestation rate in all forest categories, including conservation forest | In production forest: Directorate General of Sustainable Production Forest Management (PHPL) | PHPL holds authority over the largest amount of land in the forest estate, which is classified as production forest |
| 2. | Reduction of forest degradation in all forest categories, including conservation forest | In protection forest: Directorate General of Watershed Management and Forest Rehabilitation In conservation forest: Directorate General of Natural Resources and Ecosystem Conservation (KSDAE) In Other Use Areas (APL) Regional governments or Ministry of Agrarian Affairs and Spatial Planning/ National Land Agency | |
| 3. | Increase timber plantations in non-forested areas | Directorate General of Sustainable Production Forest Management (PHPL) Directorate General of Forestry Planning and Environmental Governance (PTKL) | |
| 4. | Reduction of forest and land fires | Directorate General of Climate Change Control (PPI) | |
| 5. | Sustainable forest management including ecosystem restoration | Directorate General of Sustainable Production Forest Management (PHPL) | |
| 6. | Improvement of timber plantation productivity | Directorate General of Sustainable Production Forest Management (PHPL) | |
| 7. | Peatland restoration and peatland ecosystem management | Directorate General of Pollution and Environmental Damage Control (PPKL) | |
| 8. | Rehabilitation of degraded land | Directorate General of Watershed Management and Forest Rehabilitation | |
| 9. | Rehabilitation of ex-mining areas | Directorate General of Watershed Management and Forest Rehabilitation | |

Source: Presidential Regulation No. 16 Year 2015 on Ministry of Environment and Forestry, processed

Due to the fragmented nature of authority holders in NDC implementation, a main challenge faced by DJPPI is ensuring that policies, plans and programs designed to implement REDD+ and reach NDC targets are synchronized and implemented by each directorate general in MoEF as well as by other sectoral ministries, including the Ministry of Energy and Mineral Resources (in charge of mitigation in the energy sector), the Ministry of Industry (in charge of mitigation in the industry sector), the Ministry of Agriculture (in charge of mitigation in the agriculture sector) and Bappenas (in charge of integrating mitigation and adaptation into development planning).

Looking at its work mechanism, tasks and functions, it can be argued that DJPPI has neither direct power nor authority to halt drivers of deforestation, except for suppressing and controlling forest and land fires. Each sector (mining, forestry, agriculture, palm oil, and infrastructure) has its own policy directions, policies and targets, which resulted in NDC targets. The government, for example, was set to increase Indonesia's domestic coal consumption and increase production of crude palm oil (CPO) by 2020, which increased demand for those commodities. The government also upholds long-term forestry planning with a plan to issue an additional 5 million ha of large-scale forest concession licenses. The authority of DJPPI lies more in coordinating

the process and sectoral organizational units to set targets (determined per sector) and monitor their achievement. The Minister of Environment and Forestry, however, has the unique role of ‘gate-keeper’ and has the ultimate power and authority to grant or reject licenses or activities that may result in deforestation and forest degradation, even when the requests come from other sectors. The relative power and political will of the Minister of Environment and Forestry vis-à-vis other sectoral ministers, therefore, becomes crucial.

In December 2017 (disseminated in February 2018), the Minister of Environment and Forestry issued a regulation on REDD+ procedures (Regulation No. 70/2017). Based on the regulation, REDD+ actors consist of three (3) levels: (i) the national responsible entity, which is MoEF; (ii) subnational REDD+ management institutions/entities at the provincial level; and (iii) REDD+ implementers.³ It can be argued that institutional settings to implement REDD+ are meant to be established at both national and regional levels, although the format of the latter is not specified, also whether a new special institution to manage REDD+ is to be established or whether existing government organs will be used.

REDD+ procedural implementation entails several institutional structures, which are ultimately controlled and/or monitored by DJPPI. They include REDD+ management institutions/entities at national (MoEF) and regional level (unspecified), an MRV (Monitoring, Reporting and Verification) institution, the National Registry System (SRN), institutions to implement a Safeguards Information System (SIS-REDD+), and the funding instrument (see Minister of Environment and Forestry Regulation No. P.70/MENLHK/SETJEN/KUM.1/12/2017 pp. 6-38).

³ REDD+ implementers are defined as regional governments, managers of forest management units (FMUs), permit-holders in the forest and land sector, forest management entities – including social forestry, and managers of private forests, and partners. These include all parties that have forest and land permits (logging permits, timber plantation permits, ecosystem restoration permits, social forestry permits: village forest, community forestry, community timber plantation, environmental partnerships) and holders of private forest titles – this could include customary forest, because customary forest is categorized as private forest or *hutan hak*. Customary forest is still classified as one of the social forestry categories). The regulation says, ‘forest and land permits,’ which raises questions as to whether plantation permit holders are eligible to propose REDD+ implementation and access REDD+ funding.

The institutional structure administering safeguards consists of a National SIS (Safeguards Information System) Manager, with sub-national SIS managers at provincial and district levels. At site level there is a PIC for Safeguards Data and Information who can submit information regarding safeguards implementation directly to the national SIS Manager. In addition, *ad hoc* multi-stakeholder forums (MSF), which include government agencies, indigenous peoples and local communities, private sector operators, community figures, NGOs, academics and experts, can be established to accommodate complaints regarding problems, tasks and functions to support provision of safeguards implementation information at the national and subnational levels as needed.

5.2.2 Regulations and policies related to REDD+

Moratorium on licenses for primary forest and peatlands

The moratorium policy, despite its shortcomings, is the backbone of the deforestation and forest degradation reduction program in Indonesia as well as for the Letter of Intent with Norway. It is the single most important policy with the largest mitigation potential both if extended in its current form through to 2030, and more so if expanded to include additional secondary forests and forest areas under concession licenses (Wijaya et al. 2017a). The policy has been implemented since May 2011. It was renewed four times and made a permanent policy through Presidential Instruction No. 5/2019.

The policy halts issuance of new licenses on primary forests and peatlands through a central instrument, i.e. an indicative moratorium map or *Peta Indikatif Penundaan Pemberian Izin Baru* (PIPIB), which is revised every 6 months. It currently protects 66,287,067 ha of primary forests and peatlands both inside and outside the forest estate, reduced by 2.85 million ha from the original area of 69,144,073 ha in 2011 (MoEF 2019c). The area under moratorium was reduced with every revision, primarily due to exclusion of areas that were already burdened with licenses. Further, monitoring of the moratorium is difficult because the PIPIB map is not available in a format that can be readily analyzed. Furthermore, no detailed explanation is provided of where reductions of or additions to moratorium areas are

and whose/which licenses are exempted from the policy and what kind of “spatial plan developments” occur to justify revisions to the PIPPIB.

According to a civil society six-year evaluation of the moratorium in 2017, deforestation still occurred inside moratorium areas. Indeed, during the 6 years of moratorium implementation, forest cover loss was about 831,053 Ha. The causes of deforestation were unknown. Meanwhile, the government still supports the expansion of forestry plantations. In 2016, MoEF signed Minister of Environment and Forestry Regulation No. 4/2016, which increases the maximum area of logging licenses from 50,000 to 100,000 ha or 200,000 ha in Papua, and Industrial Timber Plantation licenses from 50,000 ha to 75,000 ha. From 2011-2015, the size of timber plantation licenses issued, increased by more than 1.5 million ha as logging licenses decreased by around the same number. Meanwhile, the area of forest estate released in the 2011-2016 period was almost 1.75 million ha, with hotspots also found inside moratorium areas. In 2015, 31% of total national hotspots were found inside moratorium areas. Each year an average 28% of total national hotspots are found inside moratorium areas (Greenpeace 2017).

Yet, the underlying weaknesses of the moratorium policy remain unaddressed, namely: (i) exclusion of secondary forest whereby potential protection of 46.7 million ha of forest is lost; (ii) existing provisional licenses can still be extended; (iii) exclusion of areas allocated for vital development projects such as geothermal power, oil and gas, and especially food estates; (iv) exclusion of ecosystem restoration permits while social forestry licenses are not excluded making it difficult for communities to access forest inside moratorium areas (up to 70% of communities in Papua are located inside moratorium areas); and (v) the presidential instruction is non-legally binding and no legal sanctions can be imposed for violation (Greenpeace 2017). Civil society is therefore calling for the moratorium not only to be extended in its current form but strengthened to include secondary forests and their protection made permanent (Greenpeace 2017), as despite the permanence of the moratorium, it still does not include protection of secondary forest. Further concerns have been raised about permits that can be issued for areas that used to be primary natural forest but are now degraded and classified as secondary forest.

Peatland protection and restoration

Peatlands are central to Indonesia’s mitigation agenda since their clearing is a major contributor of GHG emissions, not only for the country but also globally (Harris and Sargent 2016).⁴ Peatlands in Indonesia have been drained and cleared as a part of the plantation development agenda and a large number of large-scale concessions, most notably timber and oil palm plantations, have peatland inside their concession boundaries. Rules regarding peatland utilization are scattered across sectoral laws and regulations under the environment, forestry and agriculture legal regimes.

In 2014, Government Regulation No. 71/2014 on Peatland Ecosystem Protection and Management was enacted, dividing peatland ecosystems into two functions: cultivation and protection. The regulation mandates a minimum 30% of peatland hydrological units (*Kesatuan Hidrologis Gambut* or KHG) must be zoned as protection peat. It also sets out damage thresholds for peat ecosystems and measures that must be taken to restore them. However, the disastrous 2015 fire crisis revealed an urgency to stop all drainage and clearing of peat, regardless of depth, zone or location. In 2015, the President publicly stated no more licenses would be issued on peatland (in line with the moratorium) and there would be a review of existing licenses on peatland. He also said that peatlands that had not been cleared must not be cleared (Waluyo 2015).

In December 2016, the President signed Government Regulation No. 57/2016 revising the earlier Government Regulation No. 71/2014. This regulation is currently the main legal reference regarding peatland protection, utilization and restoration. The revision was applauded by the international community and donors because it provides a strong legal basis for halting new drainage, clearance and exploitation of peat ecosystems.

⁴ Each hectare of tropical peat drained for plantations emits an average of 55 tons of CO₂, roughly equivalent to burning 6000 gallons of gasoline. It is estimated that the total area of plantations on peatlands in Indonesia and Malaysia exceeds 5.2 million Ha. See: Harris N and Sargent S. 2016. Destruction of Tropical Peatland is an Overlooked Source of Emissions. Jakarta, Indonesia: WRI Indonesia. Accessed 18 March. <http://www.wri-indonesia.org/id/blog/kerusakan-lahan-gambut-tropis-merupakan-sumber-emisi-co2-yang-terabaikan>.

However, peatland designated as peat for cultivation may still be exploited using water management techniques to maintain the hydrological function and prevent the peat from reaching the damage threshold. Since there is no provision that excludes large-scale exploitation of peat for agribusiness, including palm oil and timber plantations, these kinds of utilization are still allowed on cultivation peat.

Following the government regulation, MoEF issued its own implementation regulations in 2018, i.e. Minister of Environment and Forestry Regulation No. 14/2017 on Procedures for Inventorying and Determining Peat Ecosystem Function, Minister of Environment and Forestry Regulation No. 15/2017 on Procedures for Measuring Surface Water Levels in Peat Ecosystems, Minister of Environment and Forestry Regulation No. 16/2017 on Technical Guidelines for Peat Ecosystem Restoration, and Minister of Environment and Forestry Regulation No. 17/2017 on Revision of Regulation No. 12/2015 on Timber Plantation Development. It also enacted Peat Hydrology Unit and Peat Ecosystem Function maps.

Oil palm moratorium

Signed by President Joko Widodo in 2018, Presidential Instruction No. 8/2018 on the moratorium is only applicable to palm oil licenses submitted for forest estate. Palm oil licenses submitted for areas classified as non-forest or other use areas (*Areal Penggunaan Lain* or APL) can still be granted. According to MoEF statistics, there are currently around 6.9 million ha of natural forests in APL areas (8% of all remaining natural forests), 5.4 million ha of which are secondary forests not protected by the 2011 moratorium policy (MoEF 2018c).

The oil palm moratorium brings hope for forest protection and community rights because it:

- **Protects forests.** It temporarily halts further expansion of oil palm plantations into Indonesia's forests estate and the remaining natural forests within it, which would otherwise drive more deforestation. Currently, 12.8 million ha of forest estate in Indonesia is classified as 'convertible production forest' or HPK, which is eligible for conversion to oil palm plantations. HPK estates still contain 2.5 million ha of primary forest,

which were protected from new licenses by the 2011 moratorium (until July 2019) as well as 3.8 million ha of secondary forest, which is not protected by the moratorium (MoEF 2018c). The oil palm moratorium protects 6.3 million ha of natural forests in HPK estates for at least three years (with some exceptions).

- **Targets existing problematic licenses.** This policy is also promising because it instructs evaluations of forest estate release and exchange decrees (*Surat Keputusan Pelepasan/Tukar Menukar Kawasan Hutan*) for large-scale oil palm plantations to find instances where there are still productive forests inside plantations that have not been converted and can still be saved, or if there are legal violations, including oil palm plantations operating in forest estate without proper licenses, or in violation of spatial plans. According to MoEF, it has identified 1 million ha of oil palm plantations operating illegally inside forest estates (Agustine 2016). Meanwhile, data from the Ministry of Agriculture says that of 4.6 million ha of smallholder plantations, there are indications that 1.7 million ha are operating illegally (inside forest estates) (Info Sawit 2017). In response, President Joko Widodo has ordered that smallholder plantations be released from the forest estate (as long as they are not in conservation or protection forest) (Amri 2017). Civil society organization figures are higher. According to Auriga, 3.4 million ha of oil palm plantations are located inside forest estates (Saputra 2018). Based on these evaluations, MoEF, through gubernatorial recommendations, can 'return' areas with productive forests back to the forest estate. The evaluation of existing licenses is quite groundbreaking, something not seen in previous moratoria.
- **Tackles the data problem.** The policy purports to address one of the most pressing problems in palm oil governance in Indonesia, which is the lack of reliable data on oil palm plantations, owners, locations, planting year, size, area status, completeness of license, etc. starting from mapping all oil palm plantations (belonging to both large companies and smallholders) and identifying plantations operating inside forest estates. In December 2019, the Minister of Agriculture issued Decree No. 833/KPTS/PT SRH.020/M/12/2019 on the size of palm oil cover in Indonesia (16.38 million Ha). However, the accompanying map is not available to the public in a format that can be analyzed.

- ***Tries to save remaining forest inside plantation concessions.*** The policy contains a clause for HCVF (High Conservation Value Forest) assessments in forest estate areas released for oil palm plantations. This is progressive because HCVF is not yet explicit in prevailing laws and regulations. However, what actually happens with assessment results remains unclear.
- ***Addresses community and smallholder land rights.*** This moratorium explicitly orders acceleration of issuance of land titles for smallholders and empowerment of smallholders so their plantations can produce better yields. It also orders evaluation of the '20% rule' (the mandatory allocation by large-scale oil palm plantations of 20% of their planted area in HGU concessions and released forest estate for communities/ smallholder plantations).

State officials responsible for the moratorium are as follows:

1. The Coordinating Minister for Economic Affairs (as coordinator)
2. The Minister of Environment and Forestry
3. The Minister of Agriculture
4. The Minister of Agrarian Affairs and Spatial Planning
5. The Minister of Home Affairs

6. The Head of the Investment Coordination Board (BKPM)
7. Governors
8. Districts heads

The distribution of mandates in the oil palm moratorium is shown in Table 16 below.

The moratorium mandates the Minister of Environment and Forestry to suspend forest estate release or exchange proposals for oil palm plantations based on certain criteria, as shown in Figure 31 below.

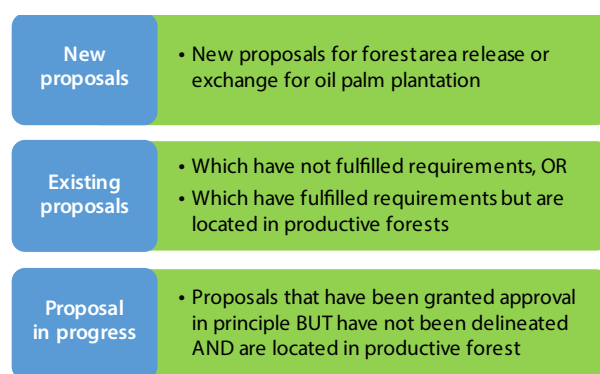


Figure 31. Criteria for suspension of forest estate release or exchange for oil palm plantations

Source: Presidential Instruction No. 8 Year 2018 on the Suspension and Evaluation of Palm Oil Plantation Licenses and Improvement of Palm Oil Plantations Productivity

Table 16. Distribution of mandates in the oil palm moratorium

| No. | Institution | Mandates | | | | |
|-----|---|----------|--|---------------------------|---------------------------|-----------------------|
| | | Mapping | Data Collection/ Organizing and Verification | Suspension of Licenses | Evaluation of Licenses | Follow-Up Measures |
| 1. | District heads/Mayors | √ | √ | √ | - | √ |
| 2. | Governors | - | √ | √ | - | √ |
| 3. | Minister of Environment and Forestry | - | √ | √ | √ | √ |
| 4. | Minister of Agriculture | - | √ | - | √ | √ |
| 5. | Minister of Agrarian Affairs and Spatial Planning | - | √ | - | √ | √ |
| 6. | Head of the Investment Coordination Board | - | - | √ | - | - |
| 7. | Minister of Home Affairs | - | - | - | - | - |
| 8. | Coordinating Minister for Economic Affairs | - | - | - | - | - |

Source: Presidential Instruction No. 8 Year 2018 on the Suspension and Evaluation of Palm Oil Plantation Licenses and Improvement of Palm Oil Plantations Productivity

Meanwhile, three institutions/officials are mandated to evaluate existing oil palm licenses: the Minister of Environment and Forestry, the Minister of Agriculture, and the Minister of Agrarian Affairs and Spatial Planning, each according to its authority. See Table 17 below.

Based on the results of evaluations, five institutions are mandated to conduct 'follow-up measures', decisions for which are taken in 'coordination meetings' held by the Coordinating Minister for Economic Affairs. The follow-up mandates are shown in Table 18 below.

Table 17. Palm oil-related licenses evaluated under Presidential Instruction No. 8/2018

| No. | Palm Oil-Related Licenses | Institutions | Evaluation Criteria |
|-----|--|---|---|
| 1. | Forest estate released or exchanged for oil palm plantation | Minister of Environment and Forestry | Forest estate released or exchanged for oil palm plantation that (i) has not been planted with oil palm, (ii) still contains productive forest, (iii) shows indications of misuse, (iv) is transferred to another party |
| 2. | | | Oil palm plantations operating inside forest estate without a forest estate release or exchange permit |
| 3. | | | Development of High Conservation Value Forest in forest estate released for oil palm plantation |
| 4. | Plantation Business Licenses (IUP) | Minister of Agriculture | Issuance process and licenses that have been granted |
| 5. | Plantation Business Registration Letters (STDUP) | | |
| 6. | Development of community oil palm plantations: 20% of the total land area cultivated by plantation company | | Implementation |
| 7. | | | Compliance with spatial plan |
| 8. | Business Use Rights (HGU) concession permits | Minister of Agrarian Affairs and Spatial Planning | Realization of oil palm plantation development (cultivation) |
| 9. | | | HGU transfer to another party without registration at the National Land Agency |
| 10. | High Conservation Value (HCV) forest | | Development of High Conservation Value forest in forest estate released for oil palm plantation |

Source: Presidential Instruction No. 8 Year 2018 on the Suspension and Evaluation of Palm Oil Plantation Licenses and Improvement of Palm Oil Plantations Productivity

Table 18. Mandated follow-up measures based on evaluation results

| | |
|--|---|
| District heads and Governors | Revoke plantation business license or plantation business registration letter (IUP/STDUP) located in forest estate |
| Minister of Agrarian Affairs and Spatial Planning | <ul style="list-style-type: none"> • Stop issuance of or revoke HGU • Determine HGU area as abandoned land • Re-classify ex-HGU area as state land • Reclassify area from forest estate released for oil palm plantation as forest estate (informed to Governor to be proposed by Governor to MoEF) |
| Minister of Environment and Forestry | <ul style="list-style-type: none"> • Reclassify area from forest estate releases for oil palm plantation as forest estate • Take legal measures/lawsuit to get compensation for unlawful use of forest estate for oil palm plantations |
| Minister of Agriculture | Enact norms, standards, procedures and criteria (NSPK) for IUP and STDUP |

Source: Presidential Instruction No. 8 Year 2018 on the Suspension and Evaluation of Palm Oil Plantation Licenses and Improvement of Palm Oil Plantations Productivity

However, as was the case for the 2011 moratorium on issuing new licenses for primary forests and peatlands, the oil palm moratorium includes an exception clause. Proposals for forest estate release or exchange can still be granted for oil palm plantations planted and processed based on Article 51 of Government Regulation No. 104/2015 on Procedures for Forest Estate Use and Function Change. The regulation appears to grant a sort of ‘amnesty’ for semi-legal or extra-legal oil palm plantation licenses granted by District Heads/Governors in forest estate under a specific circumstance, namely based on a Regional Spatial Plan (at district/provincial level) legalized by a Regional Regulation before the 2007 Spatial Plan Law was enacted. If the plantations are located in convertible production forest (HPK), the areas will be released from the forest estate. If they are in production forest/limited production forest (HP/HPT), the areas must be exchanged. If they are in protection or conservation forest (HL/HK), the plantations can operate for one cycle or fifteen years and must not be replanted.

In addition, the wording of the Instruction reveals another loophole, namely regarding proposals for forest estate release or exchange for oil palm plantations that had been granted approval in principle and had been delineated before the instruction came into force even though the plantations may still contain productive forests. This loophole is evidenced in the recent case of almost 10,000 ha of forest estate released for an oil palm plantation for PT Hartati Inti Plantation in Buol, Central Sulawesi, despite 80% of the area released being intact forest (Greenomics 2011).

According to a coalition of community, pro-justice, human rights and environmental organizations in Papua, in the 2015-2018 period, MoEF granted eleven oil palm plantation companies in Papua some of 237,752 ha of forest estate (Elisabeth 2018). If this number is accurate, it means 78% of forest estate released or exchanged during the Jokowi administration (2015-now), is for oil palm plantations and in Papua. As recently as April 2018, a company named PT Sawit Makmur Abadi still managed to obtain a forest estate release permit for a 28,817-ha oil palm plantation in Nabire, Papua, which included 8,825 ha of peat forest and 95 ha of primary forest (which are supposed to be protected by the 2011 moratorium) on indigenous land (Elisabeth

2018). Due to lack of information disclosure, we do not know whether the 237,752 ha were qualified as exceptions or did not meet the criteria for the moratorium (for example, whether the proposals had obtained approval in principle and been delineated before the instruction was signed) or whether it is a case of inconsistency by the current government in carrying out the oil palm moratorium.

One Map Policy

The One Map Indonesia (OMI) initiative is one of many policy initiatives spearheaded by REDD+ preparation activities in Indonesia. The initiative, which began under Yudhoyono’s administration at the end of 2010, was carried over to and continued by President Joko Widodo, who in February 2016 enacted a presidential regulation to accelerate the implementation of the initiative. Now called the One Map Policy (*Kebijakan Satu Peta* or KSP) it was set to be completed in June 2019.

The 2016 presidential regulation mandates the following activities to be carried out by related ministers under the coordination of the Coordinating Minister for Economic Affairs:

- Compilation of thematic geospatial information
- Integration of thematic geospatial information
- Synchronization of thematic geospatial information
- Formulation of recommendations to facilitate the resolution of thematic geospatial information conflicts

It is a massive effort to collect, compile and synchronize 85 thematic maps from different sectors that lack data and where spatial conflicts abound (Sekretariat Tim Percepatan Kebijakan Satu Peta 2018). The final deadline for One Map to be created and ready for use as a single geospatial reference for all parties was June 2019. The government had previously sent signals that the Map would be launched in August 2018 but did not follow through for several reasons. In one media statement, the Coordinating Minister for Economic Affairs claimed that in terms of integration, the One Map policy was 97 percent complete (Prabowo 2018). However, progress and results of synchronization and resolution of spatial conflicts were unknown. Later at the end

of the year, on 11 December 2018, President Joko Widodo launched the One Map Policy Geoport in Jakarta (<https://tanahair.indonesia.go.id/portal-web>). The geoport serves as a reference for all institutions and the public to better understand land use planning (Mufti 2018).

At the end of 2019, the One Map Acceleration Team reported that they completed compilation and integration 99% of the thematic maps at the national level (84 out of 85 thematic maps) in 24 provinces. The remaining map that has not been fully compiled and integrated is the Village Boundaries Map at the scale of 1: 10,000 (Hanavi 2020). However, the remaining steps after integration, namely synchronization and resolution of spatial conflicts remain unclear. Furthermore, the One Map is said to ignore the realities of community-managed area by omitting “indigenous territory” from the nomenclature of the thematic maps (ibid 2020).

Civil society organizations have repeatedly criticized the increasingly closed-off process of One Map creation. Their concerns reached a new height when the President issued Presidential Decree No. 20/2018 in August 2018, which restricted access to geospatial data and information to only a handful of state officials, with full access given only to the President, Vice President, Coordinating Minister for Economic Affairs, Head of the Geospatial Information Agency and the Minister for National Development Planning.

Indigenous Peoples Bill

Since the failure to pass the Indigenous Peoples Bill in 2014 at the end of Yudhoyono’s administration, the Bill consistently failed to make it to the national legislation program (*Program Legislasi Nasional* or *Prolegnas*), both in 2015 and 2016. There was no priority legislation list for 2017, and CSOs led by AMAN kept pushing the Bill to be put on the list. Some points proposed by CSOs for the Bill included:

Using the term “*masyarakat adat*” (customary communities) instead of “*masyarakat hukum adat*” (customary law communities) as it encompasses both the understanding contained in the term “*Kesatuan Masyarakat Hukum Adat*” and “*Masyarakat Tradisional*” as mentioned in the Constitution.

The proposed scope of rights to be protected included the right to territory and natural resources, the right to development, the right to spirituality and culture, the right to a healthy environment, the right to implement a system of specific rules, the right to education, the right to health, and rights over traditional knowledge.

They also said there should be customary community commissions (*Komisi Masyarakat Adat*) with the sole task of taking care of indigenous peoples’ affairs, including identifying and registering indigenous peoples in their regions.

In 2020, the Bill made it to the national legislation program for 2020-2024 under the name of “Draft Law on Customary Law Communities (*RUU Masyarakat Hukum Adat*)”. In 2021, the Bill is mentioned in the priority legislation list. However, the status is still at harmonization stage and is not yet entering the debate stage (DPR RI 2021).

Agrarian reform

As mentioned earlier in the sub-section on social forestry, agrarian reform is one of the landmark programs of President Joko Widodo’s administration under the Economic Equity program (of which social forestry is also a part). Agrarian reform targets involve allocation for social forestry on an area of 12.7 million ha and land legalization and redistribution on 9 million ha (legalization of existing land at 4.5 million ha and land redistribution for 4.5 million Ha). Out of the 4.5 million ha of land for redistribution, the majority comes from forest estate release (4.1 million Ha). The rest from plantation concessions that have expired and abandoned land. Agrarian reform targets were affirmed in Indonesia’s National Medium-Term Development Plan (RPJMN) for 2014-2019. In the 2019 Government Work Plan (RKP), the last one under President Joko Widodo’s 2014-2019 term, agrarian reform became a priority activity (PA) under the Priority Program of Poverty Eradication (Prabowo 2018). With priority activity status, agrarian reform actually fares better than other government programs, including peatland restoration, which has never held such status.

Because Indonesia has a finite and even shrinking land reservoir and most of Indonesia’s land is legally classified as forest estate, agrarian reform is closely linked to forest estate release. It is also linked to the

oil palm moratorium policy, which involves an evaluation of oil palm plantations that have not been developed or worked on (“abandoned”), for redistribution to communities, as well as the 20% rule for allocation to smallholders. Ministry of Agrarian Affairs and Spatial Planning Regulation No. 7/2017 regulates HGU permit holders to facilitate the development of community plantations in the form of nucleus-plasma estate partnerships (*kemitraan inti-plasma*). It also links to resolution of tenurial rights for communities inside the forest estate, which is regulated by Presidential Regulation No. 88/2017.

The Minister of Environment of Forestry has allocated 4.8 million ha of forest estate as agrarian reform object land (*Tanah Obyek Reforma Agraria* or TORA). By the end of 2017, only 750,123 ha of forest estate had been released, a mere 18.2% of the 4.1 million ha target (Bappenas 2017d). The target for forest estate release in 2019 was also small, at 111,305 ha in 7 provinces (Bappenas 2018b). There is no public account on how much natural forest is contained in forest estate allocated for TORA, particularly for the 2.1 million ha of convertible production forest (HPK) allocated and the 437,937 ha of forest estate released for of the 20% smallholder plantation allocation.

Although agrarian reform has been a landmark program since President Joko Widodo took office in late 2014, only in September 2018, near the end of his first term, did he eventually enact a legal basis for its implementation through Presidential Regulation No. 86/2018. The 10-chapter regulation contains provisions for the following subjects:

- Implementation of agrarian reform
- Handling of agrarian disputes and conflicts
- Institutional setting for implementation
- Obligations and prohibitions for TORA receivers
- Funding

Through this regulation, the institutional setting for agrarian reform implementation is established, which includes the following four structures:

- A National Agrarian Reform Team
- An Agrarian Reform Task Force at the central level
- Agrarian Reform Task Forces at the provincial level
- Agrarian Reform Task Forces at the district level

The National Agrarian Reform Team involves 16 ministries and state agencies including the Chief of the Armed Forces, Police Chief and Attorney General. The coordinator at the national level is the Coordinating Minister for Economic Affairs. Although the agrarian reform program is governed from the central level, the bulk of execution resides with Agrarian Reform Task Forces at the district/municipal level. This includes the Minister of Agrarian Affairs and Spatial Planning proposing lands to be determined as TORA reform objects, implementation of both asset and access reform, legalization of TORA, and the first stage of resolving agrarian conflicts/disputes.

At the national level, the bulk of implementation rests in the hands of the Ministry of Agrarian Affairs and Spatial Planning as Head of the Central Agrarian Reform Task Force, whose authority includes determining which lands become the object agrarian reform. To handle agrarian conflict and dispute resolution, Agrarian Reform Task Forces (*Gugus Tugas Reforma Agraria* or GTRA) were established at the central level (led by the Minister of Agrarian Affairs and Spatial Planning), provincial level (led by governors), and district level (led by district heads/mayors).

The presidential regulation mandates participation and transparency. However, there is no mention of indigenous peoples as subjects of agrarian reform. According to one analysis, although community groups holding communal rights are mentioned as subjects of agrarian reform, the definition does not refer specifically or expressly to indigenous peoples (Firmansyah 2018). The regulation does not include indigenous peoples’ lands as objects of agrarian reform despite ex-plantation or HGU land, ex-use rights land (*erfpacht*) and land released from forest estate being highly likely to overlap with or be subject to conflict with indigenous land. This lack of clarity over the objects of agrarian reform poses a risk that agrarian reform may actually create new conflicts (Firmansyah 2018b).

Further, there is no institutionalized participation of communities/civil society/indigenous peoples at the national level, while at the provincial and district levels, GTRA task forces reserve seats for civil society, communities, community figures and academics, which reflects a more progressive degree of institutionalized partnerships than at the national level. Transparency is ensured through periodic

reports regarding agrarian reform implementation, which can be accessed by the public in accordance with the Public Information Disclosure Law.

In addition, there is an emphasis on the need to balance rights and environmental protection. This is reflected in one of the objectives; “improving and maintaining the quality of the environment.” The notion regarding environment is reflected in the following clauses:

- Redistributed land is used for agriculture and non-agriculture based on land capacity, land suitability and spatial plans.
- Receivers of redistributed land must maintain soil fertility and productivity, protect and preserve above-ground natural resources, and use the land in accordance with its capacity.

However, other than the above clauses, there are no explicit environmental safeguards in the implementation of agrarian reform. Environmental concerns, especially regarding forest and peatland protection, may arise in two elements of agrarian reform: (i) the determination of land for redistribution, and (ii) what happens after the land is redistributed.

Determining land originating from the forest estate for redistribution is the responsibility of the Ministry of Environment of Forestry. It has issued an indicative map of forest estate areas allocated for agrarian reform, which is revised every 6 months. Half of the indicated areas are land already controlled by communities, but around 2.1 million ha are convertible production forest (HPK) estates, which may or may not contain intact forests. Normally, only HPK estates not containing intact or productive forest should be released, but without spatial analysis of maps, it is difficult to tell. In reality, many forest estate lands still containing intact natural forests were given away to oil palm plantations, something that should not happen.

Ex-plantation areas that become objects of agrarian reform may include peatland, even deep peatland. How it is utilized following its redistribution will determine its contribution to environmental protection or environmental damage. There are opportunities to change land use for the better once land is redistributed to communities. For example, by using the 20% of oil palm HGU concessions allocated for communities to develop other, more environmentally friendly commodities.

Procedural regulations for REDD+ implementation

Procedures for implementing REDD+ are regulated by Minister of Environment and Forestry Regulation No. 70/2017 on Procedures for Implementation of REDD+ issued in December 2017. It provides a legal basis for REDD+ implementation instruments, including FREL, a National Strategy (*Stranas*), a National Forest Monitoring System (*Simontana*), safeguards (SIS-REDD+), a National Registry System (SRN) and a REDD+ funding mechanism to be established under the Ministry of Finance. The regulation includes procedures for proposing REDD+ projects, determining FREL/FRL at subnational levels, conducting measurement, reporting and verification, and accessing REDD+ funding. It also establishes limits for eligibility to implement REDD+ and scope of implementation, including implementation level, location, activities and supporting activities. The regulation does not address drivers of deforestation, but it does regulate the following important themes:

Forest Reference Emission Level (FREL)

The FREL for REDD+ submitted to the UNFCCC in December 2015 was set at 0.568 Gt CO₂e yr⁻¹ for above-ground biomass (AGB) with a reference period of 1990-2012. This is being used as a benchmark for actual emissions from 2013 to 2030, and for evaluating REDD+ performance during implementation (2018) to 2020. The FREL covers deforestation and forest degradation and peat decomposition, but has no mention of peat fires (Bappenas 2016a). The reviewed baseline from Bappenas, however, does mention both peat decomposition and peat fires, which are treated as a separate model. This means there is still a discrepancy between the Bappenas report on RAN-GRK implementation and review, and the NDC submitted to UNFCCC by the Directorate General for Climate Change Control (DJPP) as the National Focal Point.

The deforestation rate under a BAU scenario for 2013-2020 is 0.920 million Ha/year (in line with REDD+ FREL) and for BAU 2021-2030 it is 0.820 million Ha/year. The emissions reduction target translates into total deforestation below 0.450 million Ha/year until 2020, and below 0.325 million Ha/year until 2030 (Bappenas 2016a).

National Forest Monitoring System (NFMS)

National forest monitoring systems came out of the REDD+ methodological framework of Warsaw (UNFCCC's Warsaw Framework). Indonesia's NFMS was launched in October 2012 under the name '*Simontana*.' Under this system, forest monitoring in Indonesia is conducted once a year, an improvement on the previous period in which forest reporting was conducted once every three years by MoEF's Directorate General of Forestry Planning and Environmental Governance, supported by the Geospatial Information Agency (*Badan Informasi Geospasial* or BIG) and the National Institute of Aeronautics and Space (Lapan). *Simontana* contains forest cover and forest and land fire data, and will encompass additional data on carbon stock and ecosystem potential. In future, the government aims to integrate it with the One Map policy, which includes mining and plantation concessions. The system can be accessed at: http://webgis.menlhk.go.id:8080/nfms_simontana/home/mapview but current access to information remains limited to the public.

Transparency mechanism

As a part of the Transparency Framework set under the UNFCCC, DJPPI has launched a National Registry System for Climate Change Control (*Sistem Registri Nasional* or SRN), which records data and information regarding mitigation and adaptation actions and resources. According to SRN, verified emissions reductions from LULUCF reached 1,788,906,000 Mt CO₂e (MoEF 2019d). The system can be accessed at: <http://srn.menlhk.go.id>.

Another database for GHG emissions reduction was launched by Bappenas under the name Online Monitoring, Evaluation and Reporting System (MER Online), which records performance in reaching Indonesia's Low Carbon Development targets set out in Indonesia's National Medium-Term Development Plan 2020-2024 (RPJMN) (<https://pprk.bappenas.go.id/aksara/>). Additionally, MoEF launched a National GHG Inventory system named SIGN-SMART (<http://signsmart.menlhk.go.id/v2.1/app/>), which records GHG emissions from all sectors. Having different systems has been confusing.

Specifically, for MRV, MoEF published Guidelines for Measurement, Reporting and Verification of Mitigation Actions in Indonesia (MRV Guidelines) in 2015. An MRV Team was established under DJPPI through Director General Decision Letter No. 8/PPI-IGAS/2015. MRV applied to actions covered in RAN-/RAD-GRKs as well as voluntary actions by communities and the private sector (MoEF 2015c).

Safeguards

At the outset of REDD+ safeguards development there were two process streams: (i) development of safeguards principles, criteria and indicators for REDD+ Indonesia (*PRISAI*) under the REDD+ Task Force (*Satgas REDD+*), later the REDD+ Agency, which included many CSO representatives as writers/commenters (powered by LoI funding); and (ii) development of a Safeguards Information System (SIS-REDD+) by the Environmental Standardization Center (*Pustanling*) under the Ministry of Forestry assisted by Daemeter, headed by Ibu Nur Masripatin, and powered by Forclime/GIZ funding. Both processes entailed public consultations, but *PRISAI* development, according to many CSOs, was more open and consultative, with stronger, more detailed elaboration on rights components, especially FPIC. During both processes, it was agreed that *PRISAI* would be the 'furniture' and SIS would be the 'home'. But this nesting did not happen and eventually SIS developed its own set of principles, criteria and indicators (published in 2013). In the end, SIS-REDD+ was favored over *PRISAI* and was officially launched as Indonesia's REDD+ Safeguards by Regulation of Minister of Environment and Forestry No. 70 Year 2017 on the Implementation Procedure for Reducing Emissions from Deforestation and Forest Degradation, Role of Conservation, Sustainable Management of Forest and Enhancement of Forest Carbon Stocks regulation. The regulation refers to SIS-REDD+ principles, criteria and indicators as the main safeguards for REDD+ implementation, supplemented by the Safeguards Implementation Assessment Tool (*Alat Penilai Pelaksanaan Safeguards* or APPS). SIS principles, criteria and indicators consist of 7 principles based on Cancun Safeguards.

Both *PRISAI* and SIS-REDD+ principles, criteria and indicators mentioned clarification of rights, including tenurial rights. SIS-REDD+'s principle offered a blanket respect for indigenous peoples and local communities' rights, while *PRISAI*'s specifically mentioned rights to land, territory and natural resources. In their criteria, *PRISAI* demanded identification and protection of rights to land and territory in areas proposed for REDD+, a requirement for government and local government, not only project implementers. If this had been implemented, it would have strengthened government efforts to protect and fulfill indigenous and local community rights. *PRISAI* criteria also specifically mentioned recognition of rights to land, territory and natural resources based on customary and local laws. SIS-REDD+ criteria offered more general 'arrangements to recognize the rights of indigenous people and local communities' after identification, though not based specifically on customary law or local law, but on more legalistic State law. *PRISAI* also included an explicit non-eviction indicator, which was only implied in SIS-REDD+. Regarding tenurial rights, *PRISAI*'s indicators were much more specific and comprehensive, entailing a participatory approach to rights identification (including the use of participatory mapping), conflict assessment, a provision that REDD+ is not implemented in areas of conflict, and conflict resolution before and in the process of REDD+ implementation. They also required the government to issue a national policy that recognizes and protect rights, assures that spatial plans protect rights, and mandates REDD+ implementers to facilitate recognition of rights to land. These indicators are missing in SIS-REDD+.

Meanwhile, the requirement for free, prior and informed consent (FPIC) was mentioned by both *PRISAI* and SIS-REDD+. However, *PRISAI*'s criteria and indicators required consent to be obtained in accordance with United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) standards, while SIS-REDD+'s only required "a process to obtain" FPIC, and the indicators only required a "documented process of consultation that demonstrates effort towards obtaining FPIC". FPIC has not been regulated in Indonesia's laws and regulations. However, in REDD+ implementation, and particularly peatland restoration projects by BRG, FPIC was adopted as a component of their safeguards. In order to be effective, FPIC has to be embedded in safeguards

at the project level, but also enacted through regulations at the national level or in REDD+ provinces, such as it has been in the Central Sulawesi Gubernatorial Regulation on FPIC for REDD+ Programs. What is rather concerning is that the Safeguards Implementation Assessment Tool for FPIC in the ministerial regulation is only a report on FPIC implementation (effort), and not a written statement/declaration of consent from affected communities.

In *PRISAI*, fair benefit-sharing was a full principle (Principle-9), while in SIS-REDD+, it was positioned as a criterion. At the indicator level, SIS-REDD+ covers a mechanism for demonstrable equitable distribution of benefits as well as for prohibiting marginalization of communities due to limitations of access to and control over natural resources, capital or knowledge. *PRISAI* was more precise in terms of indicators, covering a requirement for the government to issue a participatory policy or rules regarding benefit sharing, monitoring of benefit-sharing implementation, and a complaints mechanism regarding benefit sharing. *PRISAI* also covered clarification of rights to carbon, which is not addressed specifically by SIS-REDD+. Meanwhile, regarding traditional knowledge, SIS-REDD+ recognizes the value of traditional knowledge and mandates a compensation mechanism for its commercial value. *PRISAI* did not specifically mention compensation for the use of traditional knowledge, only a requirement to recognize it, protect community access, and use traditional knowledge in REDD+ programs and projects.

Funding instruments

Funding instruments were the last thing to be developed for the methodological framework required for full implementation of REDD+ in Indonesia, specifically for accessing results-based payments. After considering several options, including the Indonesia Climate Change Trust Fund (ICCTF) under the auspices of Bappenas and the Fund for REDD+ Indonesia (FREDDI) and developed by the REDD+ Agency, the government decided the funding instrument for REDD+ would take the form of a Public Service Agency (*Badan Layanan Umum* or BLU). Consequently, the government launched the Environment Fund Management Agency (BPD LH) in October 2019.

Legislation regulating this funding instrument is Government Regulation No. 46/2017 on Environmental Economic Instruments, which is a mandate of Law No. 32/2009 on Environmental Protection and Management, further specified in Presidential Regulation No. 77/2018 on Environment Fund Management and Minister of Finance Regulation No. 137/2019 on Organization and Working Arrangements for the Environment Fund Management Agency.

Government Regulation No. 46/2017 lays out three kinds of environment funds to be established and managed: (i) Environment Restoration Guarantee Fund, (ii) Environment Pollution and Damage Control and Restoration Fund, and (iii) Trust Fund/Conservation Grant. The first is used to handle emergency situations in business or activity areas (including concessions), such as forest and land fires as well as post activity environmental restoration (such as reforestation after mining).

Details of each fund are shown in Table 19 below.

Presidential Regulation No. 77/2020 stipulates the establishment of a Steering Committee for Environment Funds comprising:

- Head: Coordinating Minister for Economic Affairs
- Deputy: Minister of Environment and Forestry
- Secretariat: Ministry of Environment and Forestry (*ex-officio*)
- Members
- Minister of Finance
- Minister of Home Affairs
- Minister of Energy and Mineral Resources
- Minister of Transport
- Minister of Agriculture
- Minister of National Development Planning
- Minister of Industry
- Minister of Maritime Affairs and Fisheries

The regulation makes no mention of specific issues relating to environmental or social safeguards usually found in environment-related funds, such as the Green Climate Fund and Green Environment Facility.

Table 19. Types of environment funds

| No. | Type of Fund | Sources | Purposes | Notes |
|-----|---|---|--|--|
| 1. | Environment Restoration Guarantee Fund | Time deposits; joint savings; Bank guarantees; insurance policies and/or others according to statutory regulations | To prevent environmental emergencies in business and/or activity areas caused by business and/or activities To restore the post-operations environment following damage caused by business and/or activities | The guarantee fund is stored in a State-owned bank time deposit and savings account |
| 2. | Environmental Pollution and Damage Control and Restoration Fund | State Budget (APBN) Regional Budgets (APBD) Other legitimate unbinding sources Taxes Environmental levies | To handle/mitigate pollution and environmental damage (for unknown sources/actors) To restore environmental functions, including restoration and rehabilitation To guarantee preservation of atmospheric functions (climate change mitigation and adaptation) | This fund is the responsibility of regional and central government It can be used by various agencies including BRG |
| 3. | Trust Fund/Conservation Grant | Donations Grants | Natural resources conservation (protection, preservation, use) Natural resources preservation Preservation of atmospheric functions, including climate change mitigation and adaptation, protection of ozone layer, climate change control supporting activities (MRV, safeguards, etc.) and other activities stipulated by the Minister of Environment and Forestry | This fund is managed according to agreements between grantors/donors and the government or communities Most applicable to Lol |

Source: Government Regulation No. 46/2017

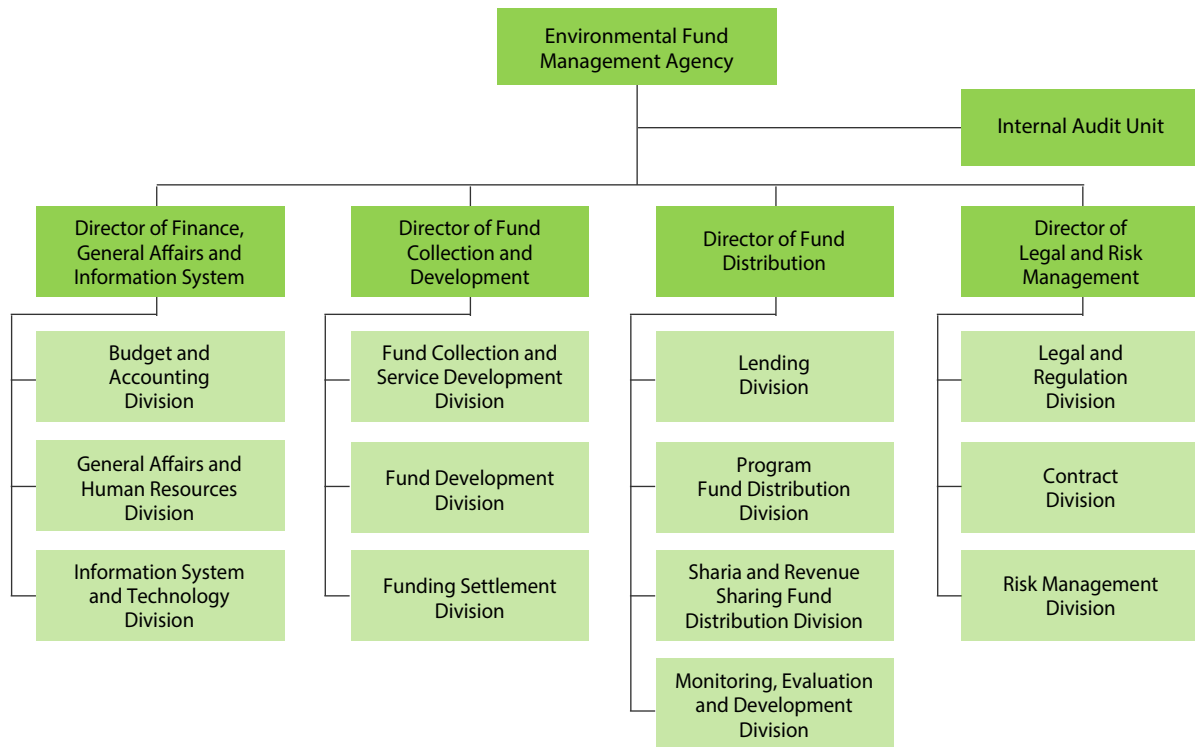


Figure 32. BPDH organizational structure

Source: Minister of Finance Regulation No. 137/2019

Minister of Finance Regulation No. 137/2019 stipulates a structure for the Environment Fund Management Agency (BPDH), placing it under the auspices of the Minister of Finance. BPDH is led by a Managing Director who oversees four directors: (i) Director of Finance, General Affairs and Information Systems, (ii) Director of Fund Collection and Development, (iii) Director of Fund Distribution, (iv) Director of Legal and Risk Management, and an Internal Audit Unit.⁵

In carrying out their duties and functions, the Managing Director of BPDH can arrange a Technical Team and/or appoint experts.⁶ Minister of Environment and Forestry Regulation No. 70/2017 on REDD+, provides for an Assessment Team at BPDH to review and assess every proposal for REDD+ funding submitted to BPDH. This assessment team consists of representatives from relevant ministries,

professionals and ad hoc technical teams. One of the technical assessments and evaluations is based on the REDD+ Implementation Assessment Tool and includes the Safeguards Information System.⁷ Given the importance of social and environmental safeguards in REDD+, the functions and mechanisms related to REDD+ have to be clarified, particularly regarding their relationship and what division(s) they are attached to in BPDH.

Meanwhile, in the current organizational structure illustrated above, there is no explicit room for civil society, indigenous peoples and local representation in the form of a multi-stakeholder forum. Presidential Regulation No. 77/2018 has stipulated the establishment of a Steering Committee to provide policy direction for the implementation of BPDH tasks, including general and technical policies. The Steering Committee is chaired by the Coordinating Minister for Economic Affairs with the Deputy Minister of Environment and Forestry and the Steering Committee Secretariat located at MoEF. In carrying out its duties, the Steering

⁵ See Article 4 of Minister of Finance Regulation No. 137/PMK.01/2019 on Organization and Work Procedures of the Environmental Management Agency.

⁶ See Article 34 of Minister of Finance Regulation No. 137/PMK.01/2019 on Organization and Work Procedures of the Environmental Management Agency.

⁷ See Article 21 paragraph (3) - (5) of Minister of Environment and Forestry Regulation No. 70/2017 on Procedures for Implementing REDD+.

Committee can involve other relevant parties,⁸ but its current structure contains no explicit organ or unit for multi-stakeholder representation. To make BPDH a fair and inclusive instrument, civil society is urging the government to accommodate civil society and indigenous and local community representation in its structure, clarify the compliance mechanism for safeguards and an effective complaints mechanism in BPDH, and ensure active involvement of civil society, indigenous and local communities in preparing BPDH Business Strategy Plans, including REDD+ Business Strategy Plans (Madani Berkelanjutan 2019).⁹

5.3 REDD+ implementation

Since the dissolution of DNPI and the National REDD+ Agency, REDD+ progress in Indonesia has continued out of the spotlight. Under the direct supervision of the Directorate General for Climate Change Control (DJPP), REDD+ moved to the third stage or the results-based payment stage to receive approximately USD 1 billion through the agreement with Norway (Royal Norwegian Embassy 2019). Indonesia finalized regulations stipulating a REDD+ financing instrument, now named the Environment Fund Management Agency (*Badan Pengelola Dana Lingkungan Hidup* or BPDH), a National Registry System (SRN) that links to REDD+ financing, and an MRV system and Safeguard Information System (SIS REDD+). These regulations were issued in 2017, the system was launched in 2018, and BPDH established on 9 October 2019 by former Coordinating Minister for Economic Affairs, Darmin Nasution; Minister of Finance, Sri Mulyani; and Minister of Environment and Forestry, Siti Nurbaya Bakar, in accordance with Government Regulation No. 46/2017 on Environmental Economic instruments and Presidential Regulation No. 77/2018 on Management of Environment Funds (Cabinet Secretariat of the Republic of Indonesia 2019).

8 See Article 10 of Presidential Regulation No. 77/2018 on Management of Environment Funds.

9 See Madani, "Environment Fund Management Agency as REDD+ Funding Instrument: Important considerations to become a fair and inclusive funding instrument," October 2019, www.madaniberkelanjutan.id

On 16 February 2019, a meeting between the Indonesian Ministry of Environment and Forestry and the Norwegian Ministry of Climate and Environment led to Norway considering disbursement of the first USD 1 billion REDD+ payment (Royal Norwegian Embassy 2019). Indonesia reported that carbon emissions from deforestation in 2017 had fallen by 60% compared to 2016 (Seymour 2019). Following a nine-year wait and several delays in payment, Norway guaranteed it would pay for approximately 4.8 million tons of CO₂ after emission figures had been verified independently. A year later, MoEF announced that the government of Indonesia would receive USD 56 million or IDR 840 billion in June 2020 (MoEF 2020). Despite the distance from the public spotlight, under the new ministry's leadership, Indonesia has achieved REDD+ progress almost each year since the ministerial merger. How this translates on the ground is discussed below.

5.3.1 REDD+ projects in Indonesia

Since 2010, CIFOR has evaluated the local impacts of REDD+ projects and jurisdictional programs in Indonesia (Duchelle et al. 2018). In 2014, CIFOR published a subnational REDD+ case book compiling implementation initiatives across the world (Sills 2014). In Indonesia, REDD+ mainstreaming was targeted for 11 provinces and 184 districts. Some provinces (Aceh, West Kalimantan, Central Kalimantan, East Kalimantan, North Kalimantan, West Papua and Papua) are members of the Governors' Climate and Forests Task Force (GCF) that recognizes subnational jurisdictions as important sites for forest-based climate policy (Boyd et al. 2018), while others signed memoranda of understanding with the former REDD+ Agency. The number of active projects was high initially, but has since declined. The highest profile REDD+ projects in Indonesia include the Kalimantan Forest and Climate Partnership by the Indonesia-Australia Forest Carbon Partnership (IAFCP); Katingan Peatland Restoration and Conservation Project by PT Rimba Makmur Utama; Ketapang Community Carbon Pools (KCCP) by Flora and Fauna International Indonesia; Rimba Raya Biodiversity Reserve by PT Rimba Raya; The Nature Conservancy's initiative within the Berau Forest Carbon Program; and the Ulu Masen REDD+ initiative by the Aceh Provincial Government. Some projects have faced criticism due to their lack of transparency and underperformance,

while others have managed to profit by selling carbon credits. Despite the opportunities, moving from the readiness to the results-based payments phase remains challenging (Duchelle et al. 2019). Below we discuss three ongoing REDD+ projects under different stakeholders located in the provinces of East, Central and West Kalimantan.

5.3.2 Under subnational jurisdictions

Jurisdictional REDD+ programs are progressing but have yet to be fully implemented in the provinces. Among six jurisdictional members of the GCF Task Force, East Kalimantan is at the frontline and is the most advanced. The Ministry of Environment and Forestry chose the province for the Forest Carbon Partnership Facility (FCPF) Carbon Fund REDD+ pilot (Komalasari et al. *in* Stickler et al. 2018). Despite being appointed by the central government, the province had independently developed innovative ideas for realizing sustainable development in its jurisdiction through three main approaches: (i) launching the ‘*Kaltim Green*’ Green East Kalimantan strategy; (ii) launching the Green Growth Compact (GGC) to synchronize initiatives from various stakeholders; and (iii) establishing a Regional Climate Change Council (DDPI). Though time consuming, these approaches have been deemed successful, resulting in payments of USD 5 per Mt CO₂e being pledged for emissions reduced over the next five years (2020-2025).

East Kalimantan is the only province in Indonesia that has its own DDPI, which was established under East Kalimantan Gubernatorial Decree No. 2/2011 on Establishment of a DDPI. Compared to the National Climate Change Council, which ended in 2015 through Presidential Regulation No. 16/2015, the DDPI’s scope is narrower due to its subnational nature. Comprising 17 regional government agency representatives and experts, the East Kalimantan DDPI has contributed to several activities, developing principles, criteria, indicators and verifiers for REDD+ Social Safeguards in East Kalimantan, a sustainable and environmentally-friendly provincial development strategy, and a regional action plan for reducing GHG emissions (DDPI East Kalimantan n.d). Ekawati et al. (2013) criticized the composition of the East Kalimantan DDPI, which had yet to involve businesses, civil society, NGOs and provincial government technical agencies in participatory policymaking, monitoring and evaluation.

The province is still struggling to balance development and conservation objectives in its jurisdiction. It still depends on coal mining and oil palm and has trouble striking a balance between curbing emissions and expanding oil palm plantations (Anderson et al. 2016; Nofyanza 2019). Komalasari et al. (*in* Stickler et al. 2018) also showed East Kalimantan having difficulties with: integrating small-scale oil palm into sustainable supply chains; sustaining gross regional product (GRP) with falling coal prices; maintaining LED-R program continuity under a change of administration; a lack of understanding regarding the Green East Kalimantan vision and Green Growth Compact (GGC); and integrating oil palm plantations and coal mining into the sustainable development agenda.

5.3.3 Under private for-profit sector

The Katingan Peatland Restoration and Conservation Project (Katingan Mentaya Project) claims to be a living example of an effort to combat climate change through carbon financing (Katingan Mentaya Project 2020). The initial Katingan Mentaya Project proposal was for an area of 203,570 ha in Central Kalimantan, but its ecosystem restoration concession (ERC) license was only granted for 108,255 Ha, or half of the proposed area (Indriatmoko et al. *in* REDD+ on the ground; MoF 2014a). In 2016, the Ministry of Environment and Forestry approved a second concession on 49,497 ha (Katingan Mentaya Project n.d). The project collaborated with Permian Global, Yayasan Puter Indonesia and Wetlands Indonesia, and was verified and validated under VCS and triple gold CCB standards. In 2015, the company had only 40-60 staff members but four years later it had almost 800. The Chief Executive Officer, Dharsono Hartono, invested USD 15 million and is now starting to receive carbon payments by preventing the release of greenhouse gases equivalent to 447,110,760 tons of carbon dioxide over 60 years. The process was difficult, time consuming and full of challenges. One significant challenge came from the Ministry of Environment and Forestry issuing Circular Letter No. SE.3/MenLHK-PHPL/SET/SET.1/7/2017 on Direct Carbon Trading Contracts, under which no new carbon trading contracts were allowed for carbon credit transactions for businesses and ERC license holders. The letter was considered a setback for private sector conservation efforts and created anxiety among ecosystem restoration companies.

5.3.4 Under civil society organizations

In 2008, the Fauna and Flora International (FFI) Indonesia Programme initiated the Ketapang Community Carbon Pools (KCCP) focusing their work on REDD+ in West Kalimantan. It had multiple goals in Ketapang district, including Bornean orangutan (*Pongo Pygmaeus wurmbii*) conservation, reducing greenhouse gas emissions, securing community tenure rights and strengthening forest governance (Intarini et al. in Sills et al. 2014). The project was part of a regional initiative in Southeast Asia to improve forest governance and tenurial rights (reddprojectdatabase.org). For several reasons challenges mainly related to tenure security (Intarini et al. in Sills et al. 2014). First, the uncertain status of land tenure of state land used and claimed by villagers. Second, the long process involved in obtaining village forest (*hutan desa*) permits. And third, the dynamics of the pluralistic culture with differences in perspective and goals. Despite the challenges, FFI's experience and personal relationship with communities were the keys to success in raising local awareness in conservation. Actors or intermediaries working at the subnational level play a more important role than is often assumed, and they are often willing to subsidize REDD+ when a carbon market to finance REDD+ activities is not yet in place (Luttrell et al. 2016).

5.4 Actors dynamics

Actors in the REDD+ policy domain in Indonesia changed following the change in the government regime. In the early phase of REDD+, the task force established a multi-sector-multi-stakeholder platform and the number of actors engaged with REDD+ was quite high. CIFOR's policy network analysis study revealed a shift in actors' involvement following new modes of governance—whereby policy was decided through negotiation among stakeholders rather than hierarchy (Dedeurwaerdere 2005; Newig et al. 2010; Thompson et al. 2011). Nevertheless, throughout all phases of REDD, the government was perceived as being most influential, although other actors did grow in influence. In 2012, the influential actors in REDD+ policy making were centered on five government organizations: the Ministry of Forestry, the Presidential Work Unit for Development Control

and Oversight (UKP4), Bappenas, DNPI and the Ministry of Environment. While in 2015, the five most influential actors were the Ministry of Environment and Forestry, Bappenas, Norad, AMAN and CIFOR (Moeliono et al. 2016 unpublished). In 2019, these five actors are still the top 5 in terms of influence. Actors like the World Bank, Ministry of Finance, UNDP and Kemitraan have moved up into the top ten most influential positions due to REDD+ Indonesia moving to the results-based payment phase (Moeliono et al. 2020; unpublished Policy Network Analysis (PNA) 3 study report). The results of the PNA study show that government actors remain the most influential in the REDD+ policy domain. However, its results also showed that many actors disengaged when REDD+ was integrated into MoEF administration.

According to Enrici and Hubacek (2016), the most important actors in forest governance are the Ministry of Forestry (now the Ministry of Environment and Forestry), which is authorized to manage forest estate (*Kawasan Hutan*); forest management units (FMUs) as all forest areas must be managed down to the micro level as mandated by the 1999 forestry law (Law No. 41/1999); local governments as mandated by Law No. 23/2014; and the Corruption Eradication Commission (KPK) dealing not only with general corruption, but also corruption in natural resources and forestry sectors. Adding to the list of actors, Myers and Ardiansyah (2014) list those holding power in land-use decisions that have implications for REDD+ in Indonesia. These actors are: the National Land Agency (BPN); private companies that have substantial formal and informal influence over land use; the Governors' Climate and Forest Task Force; the UN REDD+ Programme (FAO, UNDP and UNEP); the Roundtable on Sustainable Palm Oil (RSPO); NGOs; and customary users and local communities. As progress with REDD+ in Indonesia has been slow, many actors are leaving the REDD+ policy arena saying the idea is flawed and cannot work on the ground. However, those who still believe in REDD+ are staying and keeping REDD+ alive in Indonesia. One NGO in Indonesia (Kemitraan) believes that people are not really abandoning REDD+ initiatives. Instead, they are keeping the idea in a box in the corner of their office ready to open at any time necessary (personal communication, Jakarta 10 May 2019).

5.5 The future of REDD+

Many actors feel REDD+ in Indonesia died together with the REDD+ Agency. However, others believe it is too soon to bury REDD+, as communities consider REDD+ an opportunity to finance their forest protection activities (Warsi in Shahab 2017, Indonesia not ready to bury REDD+). Heru Prasetyo, former Head of the REDD+ Agency, commented that despite the dissolution of the REDD+ Agency running contrary to the Letter of Intent signed by Indonesia and Norway, it is important to keep the spirit of REDD+ alive (Kompas.com 2015). Angelsen et al. (2017) responded to an article by Fletcher et al. (2016) questioning REDD+ and the future of market-based conservation, arguing that although REDD+ did not reflect a workable reality as a

market-based instrument, it has evolved into a form of results-based aid supported financially by governments, civil society and the private sector.

REDD+ still has a place in forest protection initiatives and has evolved from a silo of local-based projects to larger subnational jurisdictions. It has helped in establishing a global alliance for forest protection (Duchelle *in* Evans 2019). Even though it has not stopped tropical deforestation entirely, Indonesia has shown an encouraging trend with deforestation falling by 60 percent in 2017 (Hamzah et al. 2018). Indonesia is at the beginning of results-based finance for REDD+, and funds may soon flow from the Norwegian government. Other entities, like the Green Climate Fund, may also provide billions of dollars for conserving forests in the coming years (Gadeberg 2019).

6 Implications for the 3Es

This section is an overall reflection on REDD+ and its policy processes in Indonesia. It discusses the implications of the issues discussed in the previous sections (institutional, political and economic aspects, and the REDD+ policy process) in terms of the ‘3Es’. The 3Es are: *Effectiveness* – to what extent REDD+ has achieved carbon and non-carbon benefits; *Efficiency* – to what extent all stakeholders got what they paid for; and *Equity*. The last refers to “the distributional aspects of the associated costs and benefits, procedural aspects of participatory decision making and the specific contexts that shape stakeholders’ perceptions of equity” (Angelsen et al. 2009).

Since the first country profile was written in 2012, many things have changed both at global and national levels, all affecting REDD+ development and implementation in Indonesia. At the international level, new global climate change agreements such as the Paris Agreement and FLEGT have boosted renewed interest in REDD+. At the national level, between 2007 and 2014, REDD+ developed into an issue of high interest although more politically than effectively on the ground. During this time, attention to deforestation and forest degradation and its drivers were much discussed and debated and several policies were issued which have led to reductions in deforestation and forest degradation to some extent.

Since the first country profile, Indonesia has gone through different political leadership. President Yudhoyono – whose second period of administration ran from October 2009 to October 2013 – (2009-2014) was a strong supporter of the environment and climate change agenda. Under his leadership, REDD+ was adopted and a REDD+ taskforce established, and the

moratorium on new licenses for primary forest was initiated. His successor, President Joko Widodo, continued many of his forest and environmental policies, including REDD+ although under a different institutional regime. However, as the Ministry of Forestry was merged into the Ministry of Environment and Forestry (MoEF), a new Directorate General for Climate Change Control was established together with a directorate for REDD+. Climate change discussions diminished from the public realm replaced with discussions on sustainable and green development. In his first term, President Joko Widodo initiated large-scale social forestry and agrarian reform programs and aimed for “development from the margins”. In his second term, however, he has focused more explicitly on economic development promoting private investment through the Omnibus Bill, though he did make the moratorium permanent in August 2019 (Samadhi 2019).

Have these changes led to effective, efficient and equitable REDD+ in Indonesia? The answer is not straightforward and perhaps includes both yes and no, as discussed below.

6.1 Effectiveness

During both periods (before and after the first country profile), the focus of REDD+ has been mainly on policy making and, in this regard, it has been quite effective. At the national level in particular, the moratorium on new licenses to exploit natural forest and peat forest has been effective in slowing the rate of deforestation to the extent that Indonesia is receiving a first payment from the Government of Norway for having prevented the emission of 11.23 million tons of carbon dioxide by reducing deforestation in 2017.

6.1.1 Results and status of RAN-GRK

Based on Bappenas' roadmap, in the 2017-2019 period, it should have developed a report to evaluate whether Indonesia is on track to achieve the 26%-41% target by 2020. In Bappenas' new online Monitoring, Evaluation and Reporting (MER or *PEP*) system, Indonesia's emission reduction achievement based on the implementation of RAN- and RAD-GRK (now PPRK) was claimed to have reached 23.46% up until 2019 with an emission reduction of 381,265 Mt CO₂e with 17,721 mitigation actions in 34 provinces. Note that this calculation was based on mitigation actions and is not the same as the national GHG inventory process conducted by the Ministry of Environment and Forestry. The latest national GHG inventory report by the MoEF is for the year of 2017 (MoEF 2017d).

Regarding the status of RAN-GRK, Bappenas concluded a review of RAN- and RAD-GRK and stated the government would revise Presidential Regulation No. 61/2011 to include adjustments to sectoral emission targets, baseline, mitigation action plans, and the role of stakeholders, including the private sector and NGOs, and to serve as the legal basis for emissions reduction in the 2016-2020 period (Bappenas 2017a). But until today, the said regulation has not been issued while the deadline for achieving the 26%-41% targets by 2020 has passed. The results of the review have not been disclosed.

6.1.2 Moving to low carbon development planning

Parallel to MoEF's effort to operationalize the NDC, Bappenas is driving a policy process on Low Carbon Development Planning (PPRK) to replace the presidential regulation on RAN- and RAD-GRK for the implementation period of 2021-2030, which is also the First Commitment Period of the NDC (Bappenas n.d.). Although the term 'NDC' is not mentioned anywhere in the PPRK timeline (see below), its implementation period coincides with the first implementation period of the NDC as referenced in the 2019 Low Carbon Development report by Bappenas. In addition, the first NDC mentions PPRK. The PPRK report, supported by the UK Climate Change Unit (UKCCU) and the governments of Norway, Denmark and Germany, concludes that through a low carbon development pathway, Indonesia could achieve annual GDP growth of 6% up to 2045, while reducing emissions by up to 43% by 2030, higher than the conditional target in the NDC. Furthermore, with ambitious policy measures, between 2020-2045, Indonesia could cut emissions to almost 75% more than the Base Case or basic assumption (Bappenas 2019).

The 2017-2019 period was cited by Bappenas as a transition period where RAN-GRK transforms to PPRK following the launching of the Indonesia Low Carbon Development Report and the process of developing a Low Carbon Development Planning (PPRK) Presidential Regulation. Emission reduction targets of the PPRK are consistent with INDC and

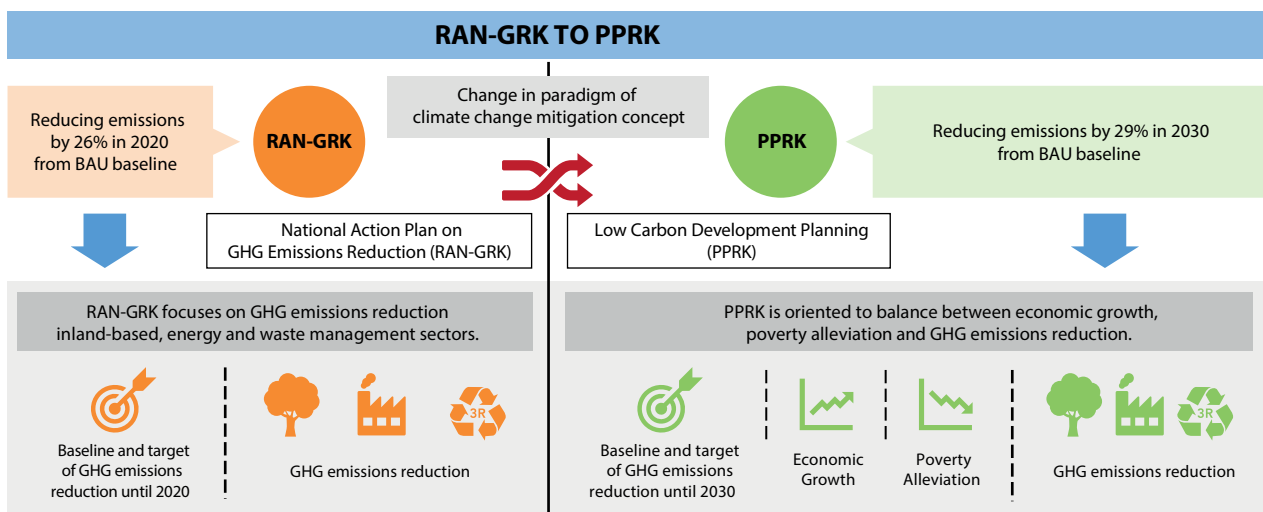


Figure 33. Transition from RAN-GRK to PP

Source: Bappenas 2018a

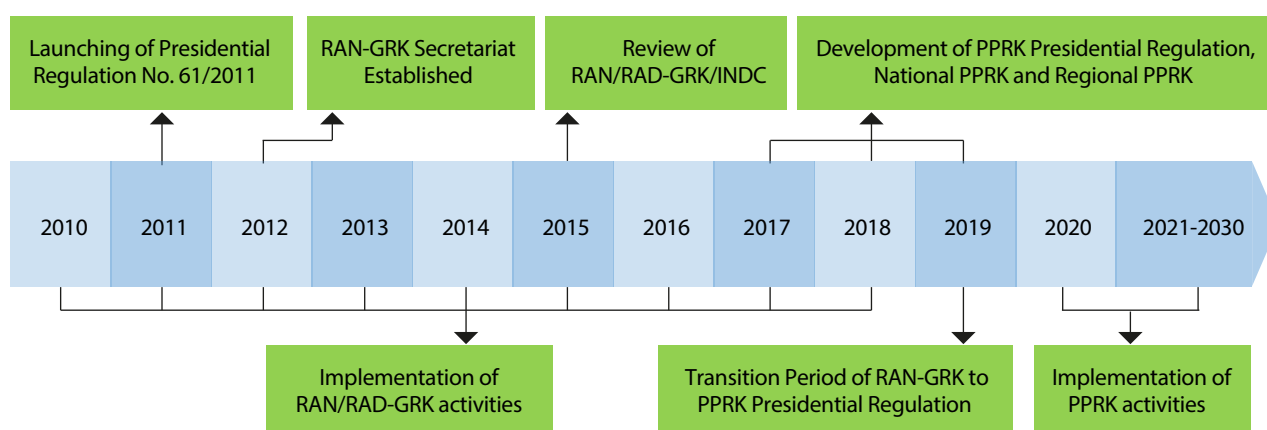


Figure 34. RAN-GRK and PPRK timeline

Source: Bappenas 2018a

NDC targets, which are 29% up to 41% from BAU level by 2030 with BAU defined as 2869 Mt CO₂e. See Figure 33 for a comparison of RAN-GRK and PPRK.

As seen from Figure 33 above, PPRK encompasses emissions reduction targets (the mitigation aspect of NDC) but in a broader context of development planning, which takes economic growth and poverty alleviation targets into account.

As the ‘successor’ to RAN-GRK, the implementation, monitoring, evaluation and reporting mechanisms of PPRK mirror those of RAN-GRK. Bappenas will prepare PPRK at the national level (*PPRK Nasional*) and have regional planning agencies (Bappeda) develop PPRK at the regional level (*PPRK Daerah*), which will be implemented by regional governments. There is also an MER (monitoring, evaluation and reporting) mechanism for PPRK to prepare reports on national GHG emissions reductions. The mechanism will take stock of and assess core activities (activities that reduce emissions) and supporting activities that do not directly reduce emissions but support their reduction. Bappenas will develop measurement indicators for each mitigation activity. However, if examples are any indication, measurement indicators relate more to the existence of policies rather than the quality of their implementation. For example, regarding the moratorium as a mitigation action, the measurement indicator set out is the existence of

related regional regulation(s) on the moratorium (Bappenas 2019), which does not necessarily mean policies or regulations are enforced effectively on the ground.

Bappenas has also developed an online system called *PEP Online* (MER Online), which records actions and their corresponding emissions reductions. Up to 2019, it recorded 17,721 mitigation actions with emissions reductions of 381,265 Mt CO₂e or 23.46% of the 26% emission reduction target Indonesia set for 2020). Data validation, however, is still ongoing. In terms of transparency, the system allows us to know where Indonesia is in terms of achieving its national and international commitments to reducing emissions. It also lists detailed mitigation activities carried out at national and regional levels. However, how MER will be integrated or synchronized with the Ministry of Environment and Forestry’s National GHG Inventory and the National Registry System (SRN) remains uncertain.

The Low Carbon Development framework will be integrated into the new National Medium-Term Development Plan (RPJMN) for 2020-2024, which will guide programming and budgeting of technical ministries and state agencies for the next five years. The document mentions formulation of low carbon and climate-resilient development pathways, in which climate change adaptation and mitigation constitute an integrated, cross-cutting priority of the RPJMN (GoI 2016a). The RPJMN

is broken down each year into annual government work plans (RKP), which guide the development of annual state budgets (APBN) (Bappenas 2017c). The Joko Widodo-Jusuf Kalla administration, referenced the RPJMN for 2015-2019. In 2018, Bappenas began the process of formulating the RPJMN for 2020-2024, which coincides with the first half of the NDC implementation period. According to the NDC document, 'priority enhanced actions' determined by the Joko Widodo-Yusuf Kalla administration would be fully integrated into Indonesia's RPJMN in 2020 (GoI 2016a). The RPJMN 2020-2024 is supported by Presidential Decree No. 18/2020 (Cabinet Secretariat of the Republic of Indonesia 2020). The plan sets Indonesia as an upper-middle income country by 2025 through the second *Nawacita*, which includes sustainable development as part of an integrated mission for achieving developed nation status by 2045.

In the RPJMN for 2015-2019, global climate change was cited as one of the strategic global environments for Indonesian development, with climate change control being one of seven directions in development policy (Bappenas 2014b). Meanwhile, mitigation and adaptation plans in all sectors were mentioned as part of a cross-sector program for reaching the 26% emission reduction target by 2019 and improving climate change resilience at the regional level (Bappenas 2014b). RAN-GRK and RAD-GRK implementation and monitoring were mentioned explicitly as policy directions and strategies in climate change control (Bappenas 2014b). Like RAN-GRK, PPRK also reaches down to the subnational level through facilitation from Bappenas in developing and revising action plans and monitoring, evaluation and reporting mechanisms.

Currently, the relationship between PPRK and NDC implementation remains unclear. DJPPI is currently developing mechanisms for implementing the NDC, including the related presidential regulation (MoEF 2019b). Due to a lack of public consultation, the relationship between presidential regulations on NDC and PPRK cannot be ascertained as yet. On one hand, PPRK is broader than the mitigation aspect of the NDC in the sense that it includes focus on poverty alleviation and economic growth. On the other hand, the NDC is broader because it focuses not only on mitigation, but on adaptation as well.

Under the NDC, monitoring and registering activities relating to climate change mitigation are conducted under the auspices of DJPPI through the National Registry System (SRN), funded, among others, by the Government of Norway. The system was expected to become fully operational in 2020. According to Joko Prihatno, Director of GHG Inventory and MRV under DJPPI, SRN would be the only transparent system in Indonesia for registering mitigation actions when up and running, but it had not been integrated with the Bappenas MER mechanism (Prihatno 2019). MER outcomes under Bappenas coordination and GHG inventories under MoEF coordination did not always match. According to Joko Prihatno, there was a large gap in terms of emissions reductions, namely 150 million tons of CO₂e (Prihatno 2019).

The National Registry System (SRN) is broader in scope than MER under Bappenas because it records not only mitigation actions, but adaptation actions and finance flows as well. It records these not only for the national government, but also for non-party stakeholders, including subnational governments, the private sector, communities and civil society. However, the capacity of the NDC regime to reach down to subnational levels is still in question, and the mechanism for implementing the NDC at subnational levels remains uncertain. So, in terms of substance, mitigation targets in the NDC are already part of Low Carbon Development Indonesia and constitute official targets both nationally and internationally. However, a dualism remains in terms of implementation.

Overall, discussions relating to climate change have shifted towards the NDC with forest expected to provide the larger part of mitigation efforts, mainly through REDD+. A major question for REDD+ is whether it can address drivers of deforestation and forest degradation and indeed reduce emissions from deforestation and forest degradation. Evidence from data shows mixed results in Indonesia:

- **Progress has been made towards REDD+ implementation.** Section 1 shows that Indonesia has made some progress in controlling fires. There were fewer fires in 2019 than in 2018. Yet, fires are still affected more by the weather than by policies.

Agung et al. (2014) also found that: (i) tenure issues were taken more seriously through the development of social safeguard mechanisms and efforts to accelerate the gazettement of forest boundaries, although Constitutional Court recognition in 2013 for customary forest management had yet to be operationalized; (ii) spatial planning related to forests more clearly than to other parts of landscapes in terms of compliance with Nationally Appropriate Mitigation Action (NAMA) commitments; and (iii) the forest and peatland conversion moratorium initiative led to a revamping of forest management.

- **Potential in delivering REDD+ co-benefits.** Current REDD+ projects in Indonesia are located where they are likely to deliver biodiversity benefits. However, projects will need to focus on forests facing the highest threat of deforestation, which will have cost implications for future REDD+ implementation if REDD+ is to deliver additional gains for climate and biodiversity (Murray et al. 2015).
- **Ongoing deforestation and degradation.** Section 1 also shows that deforestation and degradation rates have gradually increased since the first country profile was published, indicating the ineffectiveness of REDD+ in reversing deforestation and forest degradation trends. The drivers of deforestation and forest degradation have not really changed. The three main drivers are still conversion of forest estate for other uses, illegal logging and fires. Moreover, as Section 1 indicate, deforestation in Indonesia does not only result from secondary forest changing to non-forest land cover, but also from primary forest being converted straight to non-forest land cover without being degraded first. Although it also shows that most deforestation has occurred in production forests, the fact that 25% of degradation is happening in protection forests also raises concerns, as opening up these spaces for other human activities risks continuous degradation of forest quality. Moreover, the lack of comprehensive information regarding the dynamics of forest degradation and deforestation in the forest estate, and the possibility that some conservation forests may have become production forests in the 2000s pose a challenge to creating a fully comprehensive picture of deforestation trends in Indonesia.

- **Shortfalls of the moratorium on new licenses for oil palm development.** As discussed earlier, the oil palm moratorium includes an exception clause and the wording of the instruction presents another loophole, namely proposals for forest estate release or exchange permits for oil palm plantations that were approved in principle and delineated before the instruction was issued still remaining valid even though the plantations in question may still contain productive forest. This loophole was evidenced with the recent release of almost 10,000 ha of forest estate for PT Hartati Inti Plantation in Buol, Central Sulawesi, for an oil palm plantation despite 80% of the area constituting intact forest (Greenomics 2011). According to a coalition of community, pro-justice, human rights and environmental organizations in Papua, in the 2015-2018 period, MoEF granted eleven oil palm plantations companies in Papua some of 237,752 ha of forest estate (Elisabeth 2018). If this figure is accurate, it means 78% of forest estate released or exchanged by Joko Widodo's administration from 2015-2018, was for oil palm plantations in Papua. As recently as April 2018, a company named PT Sawit Makmur Abadi still managed to obtain a forest estate release permit for a 28,817-ha oil palm plantation in Nabire, Papua, which included 8,825 ha of peat forest and 95 ha of primary forest (which are supposed to be protected by the 2011 moratorium) on indigenous land (Elisabeth 2018). Due to lack of information disclosure, we do not know whether the 237,752 ha were qualified as exceptions or did not meet the criteria for the moratorium (for example, whether the proposals had obtained approval in principle and been delineated before the instruction was signed) or whether it is a case of inconsistency by the current government in carrying out the oil palm moratorium.

Some enabling conditions for REDD+ to be implemented effectively have been established but are not fully functioning. Indeed, implementation of policies over the past decade has remained disappointing. Examples include:

- **Weak implementation of international commitments.** Indonesia has ratified most international agreements and treaties regarding climate change and conservation. Yet, most have not been translated into national laws and regulations for effective implementation.

- **Institutional arrangements and regulations reflect REDD+ readiness in Indonesia, but REDD+ development remains highly influenced by contradictory regulations as well as conflicts and poor coordination between government agencies (Ekawati et al. 2019).** Responsibility for REDD+ lies with one sub-directorate under one sectoral ministry; MoEF, which has no authority over other sectors. Other ministries such as the Ministry of Energy and Mineral Resources and the Ministry of Agriculture feel no affinity to forestry. This lack of coordination poses a significant challenge to operationalizing REDD+. Moreover, though never linked explicitly to climate change mitigation and adaptation, there is an implicit expectation that efforts to secure tenure for people living in and around forests through the social forestry program will support the implementation of REDD+. The social forestry program, which commenced in 2014, has not achieved its target of 12.7 million Ha, though it had increased the area of land under community management from 1.7 million to 4.2 million ha by November 2020 (Evans 2019; Hakim 2020). Yet, community forests are generally quite limited in area and distributed across Indonesia. It is uncertain how these scattered and fragmented plots can be effective in the overall scheme of REDD+. Furthermore, under agrarian reform, 9 million ha of state forest estate would be handed over to local communities. While social forestry land is assumed to be managed as forest, agrarian reform would provide ownership of land either from abandoned concessions or from forest to be converted to agriculture.
- **National political regimes have also changed and affected commitments on the ground.** Under former President Yudhoyono, REDD+ and forest governance were high on the agenda. REDD+ was governed under an independent REDD+ Agency, which began life as a task force with a mandate extended several times before being confirmed as an agency in 2013. Many actors participated in meetings to discuss REDD+ and its mechanisms. Under President Joko Widodo, the government took ownership over REDD+ by including it in the MoEF mandate. Consequently, it was seen as a forest issue and lost the multi-stakeholder perspective of the first wave. Over the next couple of years, development of the monitoring system, funding mechanisms, safeguard information system and other REDD+ related policies continued but were hidden within MoEF.
- **The disconnect between central and regional levels.** Although the REDD+ framework appeared to be participatory involving all stakeholders, it remained predominantly at the national level with no direct link to implementation. A national REDD+ strategy was issued, but neither endorsed nor implemented at regional levels. REDD+ demonstration areas were implemented without apparent connection to national strategies or policy making. To improve the effectiveness of forest governance, the government also revived the program to establish forest management units (FMUs). This long-standing plan was finally implemented with all state forest estates sub-divided into FMUs. However, decentralization-recentralization processes have left the position of FMUs somewhat unclear. Districts no longer have forestry offices, while FMU's are expected to take over the on-site management role, but are governed from the provincial level. Further, social forestry programs are approved at the national level. For district governments, forest and forest land have become an impediment, occupying large areas over which they have no control.
- **Politics of numbers.** Significant support to develop Indonesia's MRV system, One Map policy and online single submission (OSS) system aimed to strengthen monitoring transparency. However, as Sections 1 and 2 show, the politics of defining forests, deforestation and forest degradation has posed challenges in measuring and reporting the effectiveness of REDD+ (Romjin et al. 2018), while disagreements and conflicts of interest between government agencies have also led to delays in integrating data across levels of government and across sectoral ministries.
- **The impacts of REDD+ projects.** Although Indonesia has a large number of REDD+ projects, rigorous impact assessments to verify the impacts of these projects have been limited. The benefits and impacts of several subnational-level REDD initiatives were documented by Sills et al. (2014). Overall, non-monetary benefits dominated over monetary ones. Forms of non-monetary benefits have included NGO facilitation and support and electricity provision. Meanwhile, of six case studies in Kalimantan,

monetary benefits were only apparent in two projects, namely the Kalimantan Forests and Climate Partnership (KFCP) and the Berau Forest Carbon Program. In the case of the Berau Forest Carbon Program, monetary benefits were identified as being part of pre-REDD+ activities (Anandi et al. *in* Sills et al. 2014). The combination of these benefits led to improved wellbeing for the communities involved. As earlier sections show, some projects have faced considerable criticism due to their lack of transparency and poor performance, while others have managed to secure profits by selling carbon credits. Despite the opportunities, moving from the readiness to the results-based payment phase remains challenging (Duchelle et al. 2019).

- **Business as usual.** Rather than being seen as a transformational change, REDD+ was seen as a conventional solution for bridging conservation and development, and then changed from a focus on reducing emissions from deforestation and forest degradation to results-based aid for local development (Angelsen 2016). President Joko Widodo downgraded REDD+ to project status feeling it was sufficient for it to be managed at the sub-directorate level. REDD+ also became a purely forestry issue and there was even less capacity for coordination between ministries.

Our findings show that addressing drivers of deforestation and forest degradation is challenging when economic policies encourage expansion of both small- and large-scale commercial plantations, infrastructure development and expansion, and economic growth, and 'planned deforestation' remains part of the economic development picture. The government is trying to streamline investment processes, including investments in 'planned deforestation' for commercial plantations. Furthermore, though not as prevalent as in the past, illegal logging continues to be a problem and has reportedly increased during the Covid-19 pandemic (Hermudananto 2020). Policies alone are not enough for effective implementation. REDD+ implementation effectiveness is shaped by opposing forces. On the one hand are real efforts to reduce deforestation and forest degradation through the moratorium on new licenses for primary forest, the moratorium on oil palm plantation expansion, and efforts to improve forest governance and ongoing processes to implement REDD+. On the other hand is the push for development allowing

planned and unmonitored deforestation. From the perspective of reducing emissions, these policies might actually lead to emissions increases. As shown in earlier sections, deforestation is a political issue where planned deforestation is not considered deforestation, and forest loss in areas not designated as forest estate is also not deemed to be deforestation. The politics of numbers are strongly at play here, but ultimately, planned deforestation and deforestation occurring outside the forest estate still increase emissions.

The political context in Indonesia will affect the success of REDD+, which requires strong political support because of its potential significant medium-term impacts with winners and losers in the Indonesian economy. It requires presidential backing, and engagement and ownership of key players such as parliament and the bureaucracy (Luttrell 2014). At the local level, securing community tenure does not necessarily lead to REDD+ effectiveness unless it can compete with economic interests that emit GHGs (Resosudarmo et al. 2014).

It is worth highlighting that measuring REDD+ effectiveness is challenging as Indonesia has insufficient data for estimating the impacts of some, but not all aspects of REDD+ social safeguards. For REDD+ policy development, it is essential to strengthen ongoing national and subnational data collection efforts including appropriate geo-referenced indicators for the full range of REDD+ social safeguard indicators, and to explore the integration of forest carbon and social MRV systems (Jagger and Rana 2017).

6.2 Efficiency

Efficiency in governance has improved over the years with a more educated elite understanding the costs of inefficiency. Actions have been taken to reduce transaction costs and operational costs for REDD+ implementation at both policy and project levels. Integrating REDD+ into MoEF should strengthen the connection between the national and subnational levels as through Directorate Generals under MoEF, institutional reach to subnational levels should be ensured (Ekawati et al. 2019). One aim of streamlining permit systems is to reduce transaction costs. However, delays and conflicts over the implementation of online permit systems have

ended up increased transaction costs. Forests and sustainability are still high on the national agenda, but the government has been very explicit in saying economic development is the priority. To this end, President Joko Widodo proposed the Omnibus Bill to simplify regulations and procedures and streamline the processes involved in securing licenses. While this makes business more efficient, it makes REDD+ less effective.

The first country profile highlighted the high transaction costs involved in implementing REDD+ in Indonesia due to overlapping ministerial mandates and contradictory and overlapping regulations. As earlier sections have shown, these problems remain and still reduce REDD+ efficiency. Despite there being many regulations shaping how REDD+ should be implemented, regulations issued by one ministry tend to only bind that ministry and are usually ignored by others. As many ministries are involved, coordination tends to be cumbersome and results in high transaction costs.

At the national level, MoEF and the National Development Planning Agency (Bappenas) are still competing for control over climate change issues. MoEF has established a Directorate General for Climate Change Control, but Bappenas is promoting green development and is in charge of the NDC. This competition is not conducive to effective and efficient implementation of any climate change mitigation or adaptation program, and takes attention away from effectively addressing the drivers of deforestation and forest degradation.

Pham et al. (2014) also show that weak integration of climate change adaptation and mitigation also causes higher costs for implementing climate change policies, whereas many actors have a dual mandate that could bridge adaptation and mitigation if appropriate political and financial incentives were put in place.

The Letter of Intent between Indonesia and Norway has the potential to be a significant driver of change, and Indonesia has implemented both regulatory and technical reforms to support the REDD+ market (Cronin et al. 2015). However, implementation of market processes remains a struggle with authority contested between government agencies and private interests (Boer 2018).

REDD+ opportunities are typically based on average costs across large land areas and aimed primarily at reducing deforestation for large-scale oil palm or pulp concessions. Low-cost options have emerged for protecting forests from conversion to oil palm and timber plantations when spatial variation in costs and benefits is considered in Indonesia. Funding should target deforestation in protected areas, and oil palm and timber concessions to maximize emissions reductions at the lowest cumulative cost to achieve a low emissions reduction target of 25%. Low-cost opportunities for reducing emissions from oil palm are where concessions have been granted on deep peat deposits or unproductive land (Graham et al. 2017).

Enhancing the acceptability of REDD+ further depends on the forest management regime – private, community or government. It is contingent on the appropriation of its benefits and costs to affected households. In implementing REDD+ projects in Indonesia, targeting select groups as REDD+ participants, adapting transparent implementation mechanisms, and sharing factual information among local communities to mitigate REDD+ skepticism can achieve efficiency (Rakatama 2020).

6.3 Equity

When Joko Widodo became president, his vision included “development from the margins” to secure national unity but also equity in development. His vision of development, however, has been somewhat conventional; by improving infrastructure and access, providing access to more land and streamlining permit systems, economic development would follow. We assess whether the governance of forests and REDD+ has been equitable according to the following equity dimensions:

- *procedural* – referring to participation in decision making and negotiation of competing interests
- *distributive* – referring to the allocation of benefits and costs between different stakeholders
- *contextual* – referring to existing social factors and capabilities

When Indonesia submitted its INDC, criticisms abounded. First, the INDC failed to show how emissions reduction targets would be achieved (qualitatively or quantitatively) from each sector or to mention what policy steps it would involve. Second, the perspective regarding indigenous peoples and vulnerable groups in the INDC was deemed inadequate and not based on a rights approach. Recognition, protection, respect and fulfillment of human rights was absent from the text, which was a step backward from the era of the REDD+ Agency where the rights of indigenous peoples and local communities were central in terms of REDD+ preparation and implementation. According to Jalal (2019), the INDC was not the best document Indonesia could have produced due to the untimely abolition of the National Climate Change Council (DNPI) and the disregard for civil society input, which had been invited and given but was not reflected in the final outcome.

Procedural equity refers to participation in decision making and negotiation of competing interests. Within the REDD+ domain, this dimension of equity has experienced significant setbacks. The disbanding of the REDD+ task force had an almost immediate effect with there no longer being an effective channel for CSOs, the general public and the private sector to participate in policy discussions. This does not mean REDD+ policy making has not involved CSOs, the private sector or local communities and indigenous people, but it does imply that participation of non-state actors is more limited and takes extra effort, through networking and coalitions. It also implies less transparency as negotiations, discussions and actual decision making happen within MoEF out of sight of the general public. MoEF does organize consultation workshops on various REDD+ policies, like funding mechanisms for instance, where CSOs and/or the private sector have been invited. However, it is unclear to what extent MoEF bases its decisions on the outcomes of these workshops. With regard to social forestry, the Directorate General of Social Forestry has established multi-stakeholder workshops, which function as information sharing platforms, but where policy issues are also discussed. Realizing its limitations, especially for activities on the ground, the directorate general officially invited CSOs to fill any gaps. However, while the social forestry program is heavily dependent on CSO input, it has no real FPIC procedure. As mentioned in

earlier sections, the requirement for FPIC forms part of the safeguards, even though the adopted version is limited to the requirement of “a process to obtain” FPIC as shown by a “documented process of consultation that demonstrates effort towards obtaining FPIC”. While FPIC has been adopted as part of REDD+ and also in peatland restoration, often it has become mainly procedural where people do consent but are often not properly informed beforehand. The fact that the Indigenous Peoples Bill was not approved also illustrates the challenges involved in ensuring a legal framework to enable indigenous people to participate in decision making.

The One Map initiative, the forest moratorium, forest licensing and new standards in participatory mapping have created political spaces for activists to promote social and environmental justice concerns actively as new disciplinary and participatory technologies are created. However, the development and implementation of REDD+ is still hampered by tensions for forest stakeholders between engaging in the new opportunities of the green economy and the risk of having political issues rendered technical (Astuti and McGregor 2015a).

Distributive equity refers to the allocation of benefits and costs between different stakeholders. In the context of REDD+, this issue has been a main topic of debate. Like most REDD+ policy discussions, this discussion petered out with no conclusive clear result. Among a number of REDD+ project sites, East Kalimantan has already announced received benefits. By December 2019, the East Kalimantan Provincial Government had received a REDD+ results-based payment from the Forest Carbon Partnership Fund (FCPF) (East Kalimantan Provincial Government 2019). The government claimed benefit recipients comprised three different groups; government, communities and the private sector, while benefits were not only disbursed monetarily, but also through poverty alleviation programs (East Kalimantan Provincial Government 2019). As discussed in sub-section 4.2, NGOs perceive equitable benefit-sharing to be a full principle, while the government considers it merely a criterion based on a mechanism for demonstrable equitable distribution of benefits as well as for prohibiting marginalization of communities due to limitations of access to and control over natural resources, capital or

knowledge. The government did not discuss how benefits were shared between different stakeholders. Though apparently, in light of the long-awaited payment, a benefit-sharing mechanism was drafted and is ready for implementation where all stakeholders will have a share, but as yet, we do not know how equitable it will be.

Of perhaps more concern is the issue of land and forest tenure. Although the government has targeted a re-distribution of more than 10% of the forest estate to local communities, in fact, some 96% of the land is controlled by large corporations, leaving only 4% for local communities (see Section 2). The REDD+ safeguards do include clarification of rights, including tenurial rights. However, there is no requirement for government and local government to protect or even respect these rights. In the context of social forestry, the distributive aspect of access to forest and land is at the core of the program. Yet, the requirements and procedures to obtain the right of access limits the opportunity to those communities with better accessibility to the national government, or with better support from NGOs. Furthermore, social forestry is still a permit system. It provides secure rights to the use of forest and forest land for a period of time, but does not give ownership rights. Customary communities can get ownership over forest in their territories, although again on certain conditions prescribed in regulations. Although several REDD+ projects in Indonesia have tried to address tenure insecurity by demarcating village and forest boundaries and identifying legal rights holders, they cannot resolve local tenure challenges created by national laws and weak conflict resolution mechanisms (Sunderlin et al. 2014).

Contextual equity refers to social context and abilities. As explained above, getting access to benefits from REDD+ and/or social forestry, requires a process often beyond the capacity of local people to access. To promote economic entrepreneurship, the government has streamlined permit systems including permits to start forest-based enterprises. However, while the system does allow more efficient applications and approvals, so far it has not been equitable. As in the past, the system and opportunities are captured by the more skilled and those with more access to administrative centers. Elite capture is further enhanced through the political system, in particular two aspects of the

system. The first is the fact that the government is built of coalitions of many actors with differing interests and ideas. Support is exchanged for political power which in turns allow the building of economic power. Second is the fact that rather than having a government that regulates the private sector, private sector has become the government and governs according to business interests and ideas. Almost all the political elite of today are businesspeople who work based on the idea that promoting business is promoting economic development for the benefit of all. Yet the fact is that business, by its very nature, is not very equitable. REDD+ reforms require a stronger consensus over the implications of a transition to a 'low carbon' economy in Indonesia among political elites and the broader public (Luttrell et al. 2014).

Ituarte-Lima et al. (2014) found that Indonesia's legal instruments do address the procedural issue of who are considered relevant REDD+ stakeholders, including forest-dependent communities and private and public actors. Ministerial decrees also prescribe policies for the distribution of carbon payments. However, the current legislation does not address the distribution of bundles of rights and obligations regarding the land and forest entitlements of forest-dependent peoples that are critical for contextual dimensions. Likewise, there is no clear indication if the resources needed to ensure different levels of government's (central, provincial and district) respective attributions are allocated equitably, while there are ministerial decrees that spell out the distribution of their rights and duties.

Setyowati (2020) also found that agency of communities in engaging, negotiating and even contesting the REDD+ initiative is closely linked to the history of their prior engagement in conservation and development initiatives. Communities are empowered by their participation in REDD+, although not always in the ways expected by project implementers and conservation and development actors. Furthermore, communities' political agency cannot be understood by simply examining their resistance toward the initiative; these communities have also been skillful in playing multiple roles and negotiating different subjectivities depending on the situations they encounter.

Conclusions

This updated edition of the Indonesia country profile provides an update on political and institutional changes in climate change, forestry and REDD+ policies since 2012. The report shows that Indonesia has engaged actively in international commitments to reduce emissions from deforestation and forest degradation and has carried out several reforms and new policies to implement REDD+. However, REDD+ effectiveness remains uncertain due to the persistence of drivers of deforestation and forest degradation found in the first country profile, strong national development goals associated with deforestation and degradation, lack of political commitment from constituencies, lack of data and rigorous impact assessments on REDD+ effectiveness, and the politics of numbers.

In addition, there are financial challenges associated with REDD+ implementation due to uncertain REDD+ finance and unclear benefit-sharing mechanisms, high transaction costs due to overlapping mandates and contested powers between government agencies, and a disconnect between central and subnational levels. Although equity has gained increasing attention in the REDD+ arena with safeguards policies and enabling policy environments such as social forestry, these require inclusive decision making, the participation of indigenous groups and equitable benefit-sharing mechanisms. Ensuring contextual, distributive and procedural equity requires shifts in power and discourse as well as major reform in forest governance structures.

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Appendices

Appendix 1. The Ministry of Environment and Forestry's 23 land cover classes

| No. | Land cover code | Land cover class | Remark |
|-----|-----------------|---|---|
| 1 | Hp / 2001 | Primary dryland forest | All types of lowland forest, located in hilly and mountainous areas (highland or sub-alpine), which show no sign of logging, including short tree forest, Sundaland heath forest (locally known as <i>hutan kerangas</i>), karst forest, ultra-basaltic forest, needle-leaved forest, deciduous forest and moss forest. |
| 2 | Hs / 2002 | Degraded dryland forest / ex-logging area | All types of lowland forest, located in hilly and mountainous areas (highland or sub-alpine), showing signs of logging or ex-logging (logging trails and forest patches), including short tree forest, Sundaland heath forest (locally known as <i>hutan kerangas</i>), karst forest, ultra-basaltic forest, needle-leaved forest, deciduous forest and moss forest. Abandoned ex slash and burn areas, post forest fire areas or regrown degraded land. Non-timber plantation areas where trees have been cut down. Farmland and plantations are included in the savannah, bush and shrub, and bare land classes. |
| 3 | Hrp / 2005 | Primary peat swamp forest | All types of forest cover in wetlands, including brackish swamp, peat swamp and sago forest, which show no signs of logging activity. |
| 4 | Hrs / 20051 | Degraded peat swamp forest / ex-logging area | All types of forest cover in wetlands, including brackish swamp, peat swamp and sago forest, that show signs of logging activity. If the area has been logged intensively and inundated with little water, this area is classified as bare land. Areas that have been logged intensively and are heavily inundated with water are classified as water body (swamp). |
| 5 | Hmp / 2004 | Primary mangrove | Mangrove forest, including <i>nipah</i> (<i>Nypa fruticans</i>) and <i>nibung</i> (<i>Oncosperma tigillarium</i>), growing in coastal areas where there are no signs of logging. In some areas, mangrove forest is located further from the coast. |
| 6 | Hms / 20041 | Degraded mangrove / ex-logging area | Mangrove forest, including <i>nipah</i> (<i>Nypa fruticans</i>) and <i>nibung</i> (<i>Oncosperma tigillarium</i>), growing in coastal areas which show signs of logging. Logging patterns can vary and include rows, patches, waterlogging and post-fire-areas. Ex-logging areas converted to fishponds or paddy fields are categorized as fishpond or paddy field. Waterlogged ex-logging areas with fishponds or paddy fields are classified as water body (swamp). |
| 7 | Ht / 2006 | Timber plantation (<i>hutan tanaman industri</i>) | All timber plantation areas that have been planted, including forest estate allocated for reforestation. Area identification can be based on plantation forest allocation maps. |
| 8 | Pk / 2010 | Plantation | All plantation areas that have been planted. Area identification can be based on plantation allocation maps. Smallholder plantations are very hard to identify from satellite imagery and allocation maps due to their small size. Thus, additional information, such as field data is necessary. |
| 9 | B / 2007 | Shrub | Ex-dryland forest which has regrown, or natural grown vegetation area with low coverage of trees, or areas covered naturally with short-height vegetation. Normally, these areas show no signs of forest logging anymore. |
| 10 | Br / 20071 | Wetland shrub | Regrown ex-peat swamp forest or ex-mangrove, or natural grown vegetation area with low coverage of trees, or areas covered naturally with short-height vegetation. Normally, these areas show no signs of forest logging anymore. |

Continued on the next page

Appendix 1. Continued

| No. | Land cover code | Land cover class | Remark |
|-----|------------------------------|--|---|
| 11 | S / 3000 | Savannah or grassland | Natural savannah of non-forest land cover, sometimes bushes and trees can also be found on this land cover type. It is a natural ecosystem type found in Southeast Sulawesi, East Nusa Tenggara and the southern part of Papua. This type of land cover can be found in dry land or in swamp (swamp grassland). |
| 12 | Pt / 20091 | Dryland agriculture | All types of dryland farming including mixed garden. |
| 13 | Pc / 20092 | Dryland agriculture mixed with shrub or mixed garden | All types of dryland agriculture land, crisscrossed with shrub and ex-logging areas. This type of land cover is commonly found in swidden farming areas, and where crop rotation is practiced in karst areas. This land cover includes mixed garden. |
| 14 | Sw / 20093 | Paddy field | Wetland agriculture type, with specific partitions between plots. The most important thing to look for in identifying this land cover is rotation phases, starting from irrigation, young crops, mature crops and fallow phases. This land cover includes various types of rice paddy, including seasonal, rainfed and irrigated paddy fields. Additional field data is necessary for identifying seasonal paddy fields. |
| 15 | Fishpond | Tm / 20094 | A distinctive appearance of terrestrial fisheries or salt harvesting plots close to coastlines. A specific blocking pattern can be seen in this land cover type. |
| 16 | Settlement/ built on area | Pm / 2012 | Residential areas, which includes urban, rural, industrial and other areas showing a compact or dense built-up pattern. |
| 17 | Transmigration area | Tr / 20122 | Transmigration residential areas, including surrounding house lots, farmland and plantation areas distinguishable from settlement areas and therefore require a separate land use class. More developed transmigration areas may have uneven patterns and be classified as rural settlement. |
| 18 | Bare land | T / 2014 | All bare land cover types without vegetation (rocky mountain summits, snowy mountain summits, volcanic calderas, sand dunes, sandy beaches, river sediment) and bare soil resulting from fire. Open pit mining is not classified in this land cover class. Bare soil resulting from land clearing is classified in this land cover class. Bare land found as part of a paddy field or fishpond rotation phase is not classified as bare land. |
| 19 | Mining area | Tb / 20141 | Bare soil from open-pit mining (coal, tin, copper and others), large-scale mining sites that can be easily identified from satellite imagery, and tailing ground for waste landfills. Small-scale mining sites are not categorized under this land cover class. |
| 20 | Water body | A / 5001 | All bodies of water, including seas, rivers, terrestrial ponds, reservoirs, coral reefs, seagrass, etc. Fishponds, paddy fields and swamps are not included in this land cover class. |
| 21 | Swamp | Rw / 50011 | Non-forest swampy area. |
| 22 | Cloud covered | Aw / 2500 | Cloud cover hiding an area of 4 cm ² in the land cover map presentation scale. |
| 23 | Airport/ port/ harbor | Bdr/Plb / 20121 | Large airport, port/harbor that can be easily identified and delineated. |

Appendix 2. List of spatial data used in deforestation and forest degradation analyses

| No. | Thematic spatial data | Data source | Date data accessed/downloaded |
|-----|---|---|-------------------------------|
| 1 | Ministry of Environment and Forestry (MoEF) land cover data (<i>Peta Penutupan Lahan</i>) 1990-2017 | Geoportal KLHK https://geoportal.menlhk.go.id/arcgis/home/ | October 2018 |
| 2 | Forest estate based on legal status (<i>Peta Kawasan Hutan</i>) | Geoportal KLHK https://geoportal.menlhk.go.id/arcgis/home/ | August 2018 |
| 3 | Primary forest cover | Global Forest Watch https://www.globalforestwatch.org/ | August 2018 |
| 4 | Intact forest landscape | Global Forest Watch https://www.globalforestwatch.org/ | May 2018 |
| 5 | Indonesian regional and administrative boundaries | Indonesian Geospatial Information Agency | 2015 |

CIFOR Occasional Papers contain research results that are significant to tropical forest issues. This content has been peer reviewed internally and externally.

This country profile is a second version from the first country profile that was published by CIFOR in 2012. Since then, REDD+ developments has changed drastically in Indonesia. This version documents changes from 2012 to 2020, on drivers of deforestation and forest degradation, institutional settings and governance for REDD+, the political economy of drivers of deforestation and forest degradation, REDD+ actors and 3Es (Effectiveness, Efficiency and Equity) implementation. Indonesia keeps the commitment to addressing climate change but reducing deforestation and forest degradation remains a challenge. Major issues surrounding REDD+ implementation include weak implementation of various international agreements, contradictory regulations and weak coordination between government agencies, changing national political regimes that affects transformation commitment, disconnection between central and regional levels, unclear REDD+ projects impact, and continuous business as usual solution to bridge conservation and development. More attention to elite capture is needed to avoid bias of promoting business and economic growth for the benefit of all but at the expense of the environment.



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