INDONESIA REDD+ READINESS

STATE OF PLAY - MARCH 2017

IGES
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FOREWORD

At the 21 Conference of the Parties in Paris in 2015, Parties to the United Nations Framework Convention on Climate Change set out an ambitious plan – the Paris Agreement – for global action on climate change mitigation and adaption. As part of this plan the Paris Agreement promotes the implementation of policy approaches and positive incentives for reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks (or what is commonly referred to as REDD+) to contribute to climate change mitigation.

Countries in Africa, Latin America and the Asia-Pacific region are working on their REDD+ strategies as well as developing the architecture to monitor, report and verify emission reductions. The Institute for Global Environmental Strategies is researching these initiatives, particularly with a view to sharing experiences and lessons across countries.

This report presents a snapshot of REDD+ readiness in Indonesia, a country with forests of great importance to its people and the globe, and one that has been at the forefront of the international REDD+ movement. I would like to congratulate the authors for succeeding in bringing together this report, which I anticipate will be useful to people working on REDD+ issues from local to international levels.

The authors have been careful with the descriptions presented in the report. If any errors or omissions exist, they accept responsibility for these.

Hideyuki Mori

IGES President

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EXECUTIVE SUMMARY

- Indonesia is experiencing rapid deforestation and forest degradation. During the period 1990 to 2012, the estimated annual rate of deforestation was 918,678 ha and that of degradation was 507,486 ha. The main drivers of deforestation and forest degradation were reported to be fire due to a prolonged El Nino event in 1997/1998, and illegal logging, expansion of industrial timber plantations, rapid expansion of palm oil plantations, insufficient incentives for communities and governments, and capacity deficiencies of the institutions charged with managing protected areas.

- At the national level, a transformation of the institutional arrangements for REDD+ took place during 2014-2015 as a result of the merging of the Ministry of Environment, Ministry of Forestry (MoF), REDD+ Agency and National Council of Climate Change into the new Ministry of Environment and Forestry (MoEF). The Directorate General of Climate Change (DGCC) was established in MoEF in 2015 and is now the government agency responsible for REDD+.

- Although Indonesia experienced a major transformation of the organisational arrangements for REDD+, REDD+ readiness at national level continued to progress. The National Forest Reference Emission Level (FREL) was submitted to the UNFCCC at COP 21 in 2015. The National Forest Monitoring System (NFMS) continues to be developed. The National Registry System on Climate Change Control was operationalised in 2016. Several safeguards-related systems/initiatives were developed and DGCC is now attempting to synergise and coordinate these works and initiatives. DGCC, in collaboration with the Ministry of Finance, is also developing the funding instrument for REDD+.

- In Indonesia, REDD+ is regarded as a national approach with sub-national implementation. As national REDD+ readiness has progressed, the focus of REDD+ readiness has moved from the national level to the sub-national level. At the sub-national level, 11 pilot provinces have developed provincial REDD+ strategies and action plans. However, the development of credible RELs, MRV systems and safeguard information systems will take some time. DGCC is developing guidance for sub-national REDD+ FREL. In West Kalimantan, with support from JICA, GIZ and FFI, the provincial government has developed a FREL, which it attempted to align with the national FREL. A Forest Carbon Partnership Facility (FCPF) Carbon Fund emissions reduction programme launched in East Kalimantan is expected to become a model for sub-national REDD+ implementation with results-based payment. As of 2014, MoEF had identified and registered at least 35 REDD+ demonstration activities, including both sub-national and project level initiatives developed by governments, NGOs, private sector actors and other stakeholders.

LIST OF FIGURES AND TABLES

ABBREVIATIONS AND ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
AFD	Agence Française du Développement
EIA	Environmental Impact Assessment
APRIL	Asia Pacific Resources International Holding, Ltd
A/R	Afforestation and Reforestation
AusAID	Australian Agency for International Development
BAU	Business as Usual
CCBA	Climate, Community and Biodiversity Alliance
CDM	Clean Development Mechanism
CFES	Community Forest Ecosystem Services
CI	Conservation International
CIFOR	Centre for International Forestry Research
COP	Conference of the Parties
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DANIDA	Danish International Development Agency
DIAS	Digital Image Analysis
DFID	Department for International Development
DG	Directorate General
DGCC	Directorate General of Climate Change
DGFP	Directorate General Forest Planning & Environmental System
DSHRF	Danish International Development Agency Support to Harapan Rain Forest
ER-PIN	Emission Reductions Program Idea Note
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FCPF	Forest Carbon Partnership Facility
FDS	Field Data System
FFI	Fauna & Flora International
FIP	Forest Investment Programme
FMU/KPH	Forest Management Unit/Kesatuan Pengelolaan Hutan
FORCLIME	Forests and Climate Change Programme
FORDA	Forest Research and Development Agency
FREDDI	Fund for REDD+ in Indonesia
FREL	Forest Reference Emission Level
GFA	GFA consulting group
GHG	Greenhouse Gas
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HoB	Heart of Borneo
ICRAF	International Centre for Research in Agroforestry
IFCI	International Forest Carbon Initiative
INCAS	Indonesian Carbon Accounting System
IJ-REDD+	Indonesia-Japan Project for Development of REDD+ Implementation Mechanism

INDC	Intended Nationally Determined Contribution
IPPU	Industrial Process and Product Use
NDC	Nationally Determined Contribution
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau
LOI	Letter of Intent
LULUCF	Land Use, Land Use Change and Forestry
MoEF	Ministry of Environment and Forestry
MoF	Ministry of Forestry
MRV	Measurement, Reporting and Verification
NAMA	Nationally Appropriate Mitigation Action
NFIIS	National Forest Inventory Information Service
NFMS	National Forest Monitoring System
NGOs	Non-Governmental Organisations
OCSP	Orangutan Conservation Services Program
PCSSF	Papua Civil Society Support Fund
PSPs	Permanent Sample Plots
RECA	Restoration of Ecosystems in Conservation Areas
REDD	Reducing Emissions from Deforestation and Forest Degradation
SESA	Strategic Environmental and Social Assessment
SIS	Safeguard Information System
SNC	Second National Communication
SOP	Standard Operating Procedure
TAF	The Asia Foundation
TEBE	Towards Enabling Mitigation of Climate Change Through Promotion of Community-Based Economic Growth
TFCA	Tropical Forest Conservation Act
TNC	The Nature Conservancy
TSPs	Temporary Sample Plots
USGS	United States Geological Survey
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
VCS	Verified Carbon Standard
WRI	World Resources Institute
WWF	World Wide Fund for Nature
ZSL	Zoological Society of London

Indonesian

APL	Areal Penggunaan Lain (Other Use Area)
BAPPENAS	Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)
HD	Hutan Desa (Village Forest)

HKM	Hutan Kemasyarakatan (Community Forest)
HR	Hutan Rakyat (People Forest)
HTR	Hutan Tanaman Rakyat (Community Plantation Forest)
KEHATI	Keanekaragaman Hayati Indonesia
KPH	Kesatuan Pengelolaan Hutan (Forest Management Unit)
KYEEMA	KYEEMA Foundation
LATIN	Lembaga Alam Tropika Indonesia
LIPI	Lembaga Ilum Pengetahuan Indonesia
PHPL	Pengelolaan Hutan Produksi Lestari (Sustainable Forest Management and Production)
PIONIR	Yayasan PIONIR (Pioneer)
PRISAI	Prinsip Kriteria dan Indikator Safeguards REDD+ Indonesia (Prinsip, Criteria and Indicators of REDD+ safeguards Indonesia)
PT RMU	Perseroan Terbatas Rimba Makmur Utama
PT RHOI	Perseroan Terbatas Restorasi Habitat Orangutan Indonesia
PUSPIJAK	Pusat Penelitian dan Pengembangan Kebijakan dan Perubahan Iklim
RAN-GRK	Rencana Aksi Nasional Penurunan Emisi Gas Rumah Kaca (National Action Plan for Reduction of Emissions of Greenhouse Gasses)
RPJMN	Rencana Pemgangunan Jangka Menengah Nasional
RTRWP	Rencana Tata Ruang Wilayah Provinsi
SETAPAK	Selamatkan Hutan dan Lahan melalui Perbaikan Sistem Tata Kelola
SNI	Standar Nasional Indonesia (Indonesian National Standard)
STABIL	Yayasan STABIL
SVLK	Sistem Verifikasi dan Legalitas Kayu (System for Verification of Timber Legality)
TKLH-LK	Kelompok Kerja Tata Kelola Lahan Hutan dan Legalitas Kayu
TGHK	Tata Guna Hutan Kesepakatan
TNMB	Taman Nasional Meru Betiri
YAYORIN	Yayasan Orangutan Indonesia

1. INTRODUCTION

From the 11th Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) in 2005 to the Paris Agreement at COP 21 in 2015, 17 decisions related to REDD+[1] have been adopted by UNFCCC Parties. The Paris Agreement (Article 5) positioned REDD+ under its new post-2020 framework, encouraging Parties to take action to implement and support activities relating to REDD+ in developing countries. It is expected that REDD+ will play a significant role in the global endeavour to keep increases in global temperature below 2°C.

Indonesia has shown commitment to REDD+ at high political levels since it hosted the 13th COP in 2007 in Bali. In 2009, then President of Indonesia, Susilo Bambang Yudhoyono, pledged a voluntary national CO_2 emission reduction target of 26% by 2020 relative to the year 2000, and 41% with additional international financial support (MoEF 2015 a). For post 2020, Indonesia has set an unconditional reduction target of 29% and conditional reduction target with international financial support of up to 41 % of the business as usual scenario by 2030. Indonesia's first Nationally Determined Contribution (NDC) submitted to the UNFCCC at COP 22 clearly positions REDD+ as an important component to achieve the NDC emission reduction target from the land use sector (Republic of Indonesia 2016a).

Since 2007 REDD+ readiness has progressed at national and sub-national levels, with support from Norway, Australia, Japan, Germany and a number of other countries, the Forest Investment Programme (FIP), the Forest Carbon Partnership Facility (FCPF), the UN-REDD Programme, and non-governmental organisations (NGOs). Sub-national and project-based REDD+ demonstration activities have been developed with the engagement of various stakeholders including governments, NGOs and private companies (Gené 2012).

At the national level, the REDD+ National Strategy was formulated in 2012 (REDD+ Task Force 2012a) and the REDD+ Agency was established in 2013 as the agency responsible for REDD+. The institutional arrangements for REDD+ readiness changed significantly during 2014-2015 after the accession of President Joko Widodo, when the Ministry of Environment, the Ministry of Forestry (MoF), the REDD+ Agency and the National Council of Climate Change were merged into the new Ministry of Environment and Forestry (MoEF). The MoEF established the Directorate General of Climate Change (DGCC) as the National Focal Point and organisation responsible for climate change control, including REDD+ (MoEF 2017a).

This report describes the progress of REDD+ readiness and implementation in Indonesia led by MoEF after the institutional transformation.

Section 2 of the report provides an overview of forest cover change, drivers of forest change and forest land use classification in Indonesia. Section 3 describes the direction of forest policy under the new mid-term strategic plan (2015-2019) of MoEF. Section 4 discusses interest in and commitment of

[1] Policy approaches and positive incentives for reducing emissions from deforestation and forest degradation, and for increasing the conservation of forest stocks, the sustainable management of forests, and the enhancement of forest carbon stocks.

the Indonesian Government to REDD+. Section 5 provides information on support and funding for REDD+ readiness and implementation. Section 6 explains the status and features of readiness and implementation at national, sub-national and project levels. A summary is provided in the final section. The appendix provides a translated English version of the Indonesian National Standard on Implementation of REDD+ Demonstration Activity (SNI 7848) issued in 2013.

2. OVERVIEW OF FOREST COVER CHANGE, DRIVERS OF FOREST CHANGE AND FOREST CLASSIFICATION

2.1. FOREST COVER CHANGE

According to FAO (2016), Indonesia has a total forested area of approximately 92.4 million hectares (ha), equivalent to approximately 48% of its territory. However, these rich resources are disappearing rapidly. This section presents some of the results of the analysis behind the establishment of the national FREL on forest cover change in Indonesia.

According to Indonesia's FREL submission to the UNFCCC (MoEF 2015a), the average annual rate of deforestation in Indonesia in the period 1990 to 2012 was 918,678 ha. Of this, 723,628 ha of deforestation was in forests on mineral soil and 195,050 ha in forests on peat (organic) soil. During this period, the highest rate of deforestation was recorded in 1996-2000 when more than 2.2 million ha of forests were lost each year. The lowest rate was during 2000-2003, at about 444,000 ha per year. In the latest period (2011-2012), the deforestation rate was reported to be about 786,000 ha per year. Approximately 78% of deforestation occurred in Sumatera and Kalimantan, while the figure was 8% in Sulawesi and Papua. The annual rate of forest degradation in Indonesia during 1990-2012 was reported to be about 507,486 ha; 490,329 ha of forest degradation was on mineral soil, with the remainder on peat soil. The forest degradation rate was highest in the period 1996-2000, at 1.3 million ha annually. The rate reduced gradually to 44,000 ha in 2012 (MoEF 2015a).

2.2. DRIVERS OF DEFORESTATION AND FOREST DEGRADATION

Indonesia's FREL submission explains that the high rate of deforestation in the period 1996-2000 was likely caused by fire due to a prolonged El Niño event in 1997/1998, as well as illegal logging, expansion of industrial timber plantations and rapid expansion of palm oil plantations. The submission explains that in the period 2000-2003, forest degradation in Sulawesi, Kalimantan and Sumatera, in particular within conservation forests, was likely caused by illegal logging and encroachment activities, insufficient incentives for communities and governments to maintain protected areas, and low capacity of the institutions charged with managing protected areas. The actors responsible for degradation in Papua were identified as local communities (MoEF 2015a). The susceptibility of Indonesia's forest estate to fires was again evident recently, when the estimated burned area from February to October 2015 reached 2.6 million ha (MoEF 2015b).

2.3. DEFINITION OF FOREST AND CLASSIFICATION OF FOREST AREA

2.3.1. DEFINITION OF FOREST

Forestry Act No. 41/1999 defines forest as "Unity of ecosystem in the form of a landscape with natural resources that are dominated by trees in their natural environment, each of which are inseparable" (Republic of Indonesia 2016b). However this definition is not used in the REDD+ context as it is "rather qualitative, general and likely complicated for implementation" (Republic of Indonesia 2016b). For the national FREL,

the definition in Decree of Minister of Forestry of Indonesia No.14/2004 on A/R CDM, namely "Land spanning 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" is used. From this, the National FREL has set a "Working Definition," which considers practicality, such as limitations of methods and data used. The working definition of forest for the FREL is "a land area of more than 6.25 ha with trees higher than 5 metres at maturity and a canopy cover of more than 30 percent". The 6.25 ha area span is based on the generation of land cover maps through visual interpretation of satellite images at a scale of 1:50.000, where the minimum area for polygon delineation is 0.25 cm^2, which equates to a minimum mapping unit of 6.25 ha.

Indonesian National Standard (SNI) [2] 8033:2014 on "Method for calculating forest cover change based on results of visual interpretation of optical satellite remote sensing image" and SNI 7645:2010 on "Land Cover Classification" define forest based on satellite data features employed for interpretation, including colour, texture and brightness. In SNI 8033 forests are classified into seven classes based on types and disturbances or succession level, of which six classes are classified as natural forests. The land cover classes specified in SNI 8033 were adopted for the national FREL (Table 1) (MoEF 2015a).

[2] The following SNIs related to REDD+ have been developed by the National Standard Agency (BSN).
- SNI 7645 (2010): Land cover classification
- SNI 7724 (2011): Measurement and carbon stock accounting – field measurement to measure forest carbon stock
- SNI 7725 (2011): Development of allometric equations for estimating forest carbon stocks based on field measurement (ground-based forest carbon accounting)
- SNI 7848 (2013): Implementation of REDD+ demonstration activity
- SNI 7925 (2013): Peatland mapping scale of 1:50.000-based remote sensing image
- SNI 8033 (2014): Method for calculating forest cover change based on results of visual interpretation of optical satellite remote sensing image.

Table 1. Land cover classes used for National FREL

No	Land cover class	Abbreviation	Category	IPCC
1	Primary dryland forest	PF	Natural forest	Forest
2	Secondary dryland forest	SF	Natural forest	Forest
3	Primary mangrove forest	PMF	Natural forest	Forest
4	Secondary mangrove forest	SMF	Natural forest	Forest
5	Primary swamp forest	PSF	Natural forest	Forest
6	Secondary swamp forest	SSF	Natural forest	Forest
7	Plantation forest	TP	Plantation forest	Forest
8	Estate crop	EP	Non-forest	Crop land
9	Pure dry agriculture	AUA	Non-forest	Crop land
10	Mixed dry agriculture	MxUA	Non-forest	Crop land
11	Dry shrub	Sr	Non-forest	Grassland
12	Wet shrub	SSr	Non-forest	Grassland
13	Savannah and grasses	Sv	Non-forest	Grassland
14	Paddy field	Rc	Non-forest	Crop land
15	Open swamp	Sw	Non-forest	Wetland
16	Fish pond/aquaculture	Po	Non-forest	Wetland
17	Transmigration areas	Tr	Non-forest	Settlement
18	Settlement areas	Se	Non-forest	Settlement
19	Port and harbour	Ai	Non-forest	Other land
20	Mining areas	Mn	Non-forest	Other land
21	Bare ground	Br	Non-forest	Other land
22	Open water	Wb	Non-forest	Wetland
23	Clouds and no-data	Ot	Non-forest	No data

Source: Table 1 in MoEF (2015a)

2.3.2. ADMINISTRATIVE CLASSIFICATION OF FOREST AREA

Forestry Act No. 41/1999 defines "forest area" (Kawasan Hutan) as "a specific area that is designated or established by government to maintain the presence as permanent forest", and classifies forest area into three categories based on function: Conservation Forest (Hutan Konservasi), Protection Forest (Hutan Lindung) and Production Forest (Hutan Produksi) (Table 2). Conservation Forest is a forest area which has the principal functions of conserving plants and animals (biodiversity) as well as ecosystems. Protection Forest is a forest area with the principal functions of preventing floods, controlling erosion, preventing sea water intrusion, and maintaining soil fertility. Production Forest is forest with the principal function of producing forest products.

Decree of Minister of Forestry of Indonesia No. P. 50/2009 refers to areas that are not classified as forest area as "Areal Penggunaan Lain/APL (Other Use Area)".

The categories "forest area" and "APL" are important as the responsible ministries/government agencies for each area are different. MoEF has the authority to issue permits/concessions for forest product utilisation in "forest area", while local governments, i.e. provincial and district/municipal governments, have

authority to issue various kinds of business permits in the land use sector in APL, such as for estate crop plantation (e.g. oil palm and rubber) and mining. The permits for land associated with tenure and right of use in APL are issued by the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (Kementerian Agraria dan Tata Rurang/Badan Pertanahan Nasional). Thus, the border between forest area and APL is significant with respect to the administration of land use, and also has political implications.

The term "forest area" should be carefully used in this context. The land that is administered as forest area (Kawasan Hutan) does not equate exactly with those areas covered by forest vegetation. There are some areas categorised as forest area for administrative purposes that have no forest vegetation [3]. Conversely, there are other areas categorised as "other use area" (APL) that have rich forest vegetation [4]. To avoid confusion, in this report the term forest area is used for areas administered as forests (Kawasan Hutan), while the term forested area is used for areas covered by forest vegetation, as classified in Table 1.

Table 2. Administrative classification of forest area

Category based on purpose	Category based on function	Sub-Category based on function
Forest Area (Kawasan Hutan)	Conservation Forest (Hutan Konservasi)	Nature Reserve Forest Area (Kawasan Hutan Suaka Alam/KSA)
		Nature Conservation Forest Area (Kawasan Hutan Pelestarian Alam/KPA)
		Hunting Park (Taman Buru/TB)
	Protection Forest (Hutan Lindung)	
	Production Forest (*Hutan Produksi*)	Permanent Production Forest (Hutan Produksi Tetap/HP)
		Limited Production Forest (Hutan Produksi Terbatas/HPT)
		Convertible Production Forest (Hutan Produksi yang dapat konversi/HPK)
Other use area (Areal Penggunaan Lain/APL)		

Source: Authors, based on Forestry Act No. 41/1999 and Decree of Minister of Forestry of Indonesia No. P. 50/2009.

[3] This includes land degraded by illegal logging in production forest.

[4] This includes fallow land that has rich forest vegetation and private forests.

3. STRATEGIC PLAN FOR FORESTRY SECTOR

MoEF formulated a new mid-term strategic plan (2015-2019) in July 2015 along with the National Mid-term Development Plan (Rencana Pembangunan Jangka Menengah Nasional/RPJMN) 2015-2019. The mid-term strategic plan translates the targets for the forestry sector described in the RPJMN into targets for MoEF.

Table 3 shows the Direction of Policy and Strategy of MoEF in 2015-2019 related to forestry. The expected performance of MoEF on various agendas, including Water Conservation, Health, Food Security, Energy Security, Tourism, Preservation of Natural Resources, Environment and Disaster Management, Governance, Competitive Production and Productivity, and Eradication of Illegal Logging can be seen. Among these targets, this report focuses on two elements that are particularly relevant to REDD+ and on which significant progress is expected during 2015-2019. The first is the number of operationalised Forest Management Units (FMU)/Kesatuan Pengelolaan Hutan (KPH). The target number of operationalised FMUs is 629 (347 in Production Forest, 182 in Protection Forest, 100 in Conservation Forest). The second is the area under community-based forest management (CBFM). This will be promoted through several schemes: Community Plantation Forest (HTR), Community Forest (HKM), Village Forest (HD), Customary Forest (HA) and People's Forest (HR). The target area of CBFM is 12.7 million ha.

Forestry Act No. 41/1999 mentions in Article 17 that "The formation/establishment of the forest management area at the management unit level [FMU] is implemented considering the characteristics of the land, forest type, forest function, condition of watersheds, socio-cultural features, economy, local community institutions including customary law, and the border of government administration". The FMU represents a decentralised form of forest management in which professional teams will be stationed at the level of the forest management unit for the purposes of improving management as well as working with stakeholders, including local communities, to generate multiple benefits from forests. The FMU's main duties and functions relate to the performance of forest management on site/in the field, while the main duties and functions of the Provincial Forestry Services (Dinas Kehutanan) cover the functions and tasks of forest administration, including the granting of permits and approval of forest management plans. The roles of FMUs are developing management plans at the FMU level, forest inventory in the FMU area, and implementing forest management activities including production, rehabilitation, reclamation, nature protection and conservation, site research, education, training, consultation and supervision in the FMU area.

According to Setyarso (2016), the background of FMU establishment is that forestry problems had become increasingly complex due to institutional problems, including poor central-local government relations, tenurial conflict between the state and people, and overlapping claims resulting from weak definitions over rights to forest. The FMU concept was also introduced because forests are de facto controlled by permit holders (mainly logging and industrial forest plantation companies) and when permits expire or are inactive, the

forests become open access, enabling anyone to utilise them without control, resulting in forest loss and degradation on a massive scale. Moreover, the focus on forest management by permit holders created a situation where the government both at central and local levels did not have sufficient information on resource potential and had no control mechanism or real basis for determining forest rights allocation. The development of FMUs to manage the forest estate is the strategic solution to address these problems. FMUs are extremely important for REDD+ implementation as the government aims to bring all of Indonesia's forest estate under the control of FMUs.

Regarding progress with CBFM, as of 2012 the area under HTR, HKM, and HD was 700,831 ha, 186,931 ha and 83,401 ha, respectively. This compares with the much greater areas of 23.9 million ha under IUPHHK-HA (license for utilisation of timber forest products from natural forest) and 9.8 million ha under IUPHHK-HTI (license for utilisation of timber forest products from industrial forest plantation) (MoF 2012, p.41 Table 2).

The target set for the area under CBFM of 12.7 million ha is, like the targets for FMUs, very ambitious and thus significant for REDD+. A relatively small proportion of forest area has been allocated to communities, despite customary (adat) communities having persistently claimed ownership of forest areas (Gené 2012). The expansion of the area under CBFM, including by allocating licenses for communities in ex-logging concessions and protected areas, is considered one of way to secure the rights of customary communities, resolve tenurial conflicts that arise from land grabbing by companies, and enhance the welfare of the communities.

Table 3. Expected performance of MoEF related to forestry in Direction of Policy and Strategy of MoEF in 2015-2019

Agenda	Business process of Ministry	
	Performance	Location
Water Conservation	Decrease in the 5.5 million ha of critical land under FMUs and Watersheds	15 Watersheds
	Increase community involvement in recovery of 12.7 million ha of watersheds through the development of Community Plantation Forest (HTR), Community Forest (HKM), Village Forest (HD), Customary Forest (HA) and People Forest (HR) as well as increase in Non-Timber Forest Products (NTFPs)	
	Increase forest ecosystems in restored production and conservation of forest	Production forest not burdened by permits and degraded conservation forest
Health	Decrease in forest and land fire hotspots	Sumatera, Kalimantan and Sulawesi
Food Security	Increase farmers' arable land for rice in the forest management area by 100,000 ha	All areas under *Perhutani* state-owned company
	Increase farmers' arable land for corn in the forest management area by 167,000 ha	

	Increase conservation forest in the traditional zone that is managed through partnerships by 100,000 ha	All national parks
	Increase communities' access to forest management in the form of HKM, HD, HD and HTR by 12.7 million ha	All provinces
Energy Security	Increase the area of production forest for biomass by 100,000 ha	Sumatera, Kalimantan and Papua
	Increase utilisation of water energy from conservation areas for the purpose of mini/micro hydro power plants; at least 50 units	Sumatera, Kalimantan, Sulawesi, Nusa Tenggara, West Papua and Papua
	Increase the number of partnerships for geothermal environmental services in conservation areas; at least 5 units	Java, Sumatera, Bali, West Nusa Tenggara, East Nusa Tenggara and Maluku
Tourism	Increase the number of foreign tourists visiting conservation areas; at least 1.5 million people for 5 years	All conservation forest
	Increase the number of domestic tourists visiting conservation areas; at least 20 million people	
Preservation of Natural Resources , Environment and Disaster Management	Increase the percentage of the population of 25 species that are endangered according to IUCN RED List by 10 %	All conservation forest
	Increase the number of national parks that have a sanctuary for endangered species	All national parks
	Increase the number of ecosystem areas that have important values outside of managed forest areas (6 karsts, 6 mangroves, 6 corridors of conservation areas, and 30 biodiversity parks)	All Indonesia
	Increase the number of collections of local endemic and rare species to conserve 75 species	
	Increase the value of the index regarding the management of effectiveness, KPA , KSA and TB, by at least 70 points (good categories)	
Governance	Increase the percentage of the determination of Forest Areas by 100 %	All forest area
	Increase the length of regional boundaries and function boundaries to 40,000 km	
	Increase the number of FMUs operating to as many as 629 FMU (347 Production FMUs, 182 Protection FMUs, 100 Conservation FMUs non-National Park)	
	Increase the number of Production FMUs that apply the principles of sustainable forest management to as much as 20 Production FMUs	Production forest area
	Increase the area for utilisation of ecosystem restoration timber forest products in 2019 by 500,000 ha	Production forest and conservation forest area
	Increase the access of communities to forest management through HTR/HKM/HD, HA and HR by 12.7 million ha	All forest area
	Increase the number of work areas that have a model of mangrove forest management in the forest area to as much as 2 work areas throughout the year for 5 years	Protection forest area

Competitive Production and Productivity	Increase the management of FMUs (Conservation FMUs, Protection FMUs and Production FMUs)	All provinces except for Java island
	Increase the production of logs from natural forests and plantations to 189 million m^3 for 5 years	Sumatera, Java , Kalimantan, Nusa Tenggara, Maluku, Sulawesi, Papua
	Increase NTFP production by 20% above 2014 level (225,000 tons)	
	Increase the value of timber exports to US$ 40.47 billion	
	Increase the export of wild plants and animals as well as bioprospecting to Rp. 25 trillion over 5 years	
	Increase the percentage of NTFP production and natural silk from the forest area by 15% above 2014 level	
	A decrease in the number of violations of environmental laws and forestry to 20% of the violations in the database in 2014	Sumatera, Java and Sulawesi
Eradication of Illegal Logging	A decrease in the number of violations of environmental laws and forestry to 20% of the violations in the database in 2014	All provinces

Source: Relevant information are derived from the table of "B. Arah Kebijakan dan Strategi Kementerian" in MoEF (2015c) pp. 22-25*

*This report focuses on the information related to the forestry sector and the information related to some other environmental sectors such as waste are not included.

4. INTEREST AND COMMITMENT OF GOVERNMENT TO REDD+

Indonesia has shown commitment to REDD+ at high political levels since it hosted the 13th UNFCCC Conference of the Parties (COP) in Bali in 2007. For climate change mitigation more broadly, the then President of Indonesia, Susilo Bambang Yudhoyono, pledged to reduce emissions by 26% by 2020 from Business as Usual (BAU) with domestic resources and 41% with support from international communities at the G20 Pittsburgh meeting in 2009. The government expects to accomplish this while aiming for 7% annual economic growth. To fulfil this commitment, the government has issued Presidential Regulation 61/2011 concerning the National Action Plan for Reduction of Emissions of Greenhouse Gasses (RAN-GRK) and Presidential Regulation 71/2011 concerning the Implementation of a National Greenhouse Gases Inventory (MoEF 2015a).

In May 2010, Indonesia signed a Letter of Intent (LOI) on REDD+ readiness and implementation with the government of Norway. Under the LOI, Norway pledged 1 billion USD to support REDD+ in Indonesia. The LOI prompted a re-structuring of the coordination of the REDD+ National Strategy. As a result of the signing of the LOI, Indonesia pledged to:

- Develop a REDD+ National Strategy
- Establish an agency for the implementation of the REDD+ strategy
- Develop and implement policy and enforcement measures, including a two-year moratorium on new concessions for the conversion of peat lands and natural forests (Murdiyarso et al 2011 in Gené 2012).

The National REDD+ Task Force was established by Presidential Decree No. 19 in September 2010. The Task Force developed the National REDD+ strategy (REDD+ Task Force 2012a), the framework for MRV (REDD+ Task Force 2012b) and safeguards for REDD+ known as Prinsip Kriteria dan Indikator Safeguards REDD+ Indonesia (PRISAI) (REDD+ Task force 2013a), and drafted the financial instrument known as "The fund for REDD+ in Indonesia (FREDDI)" (REDD+ Task Force 2013b). The duties of the National REDD+ Task Force were then taken over by the REDD+ Agency, established by Presidential Decree No. 62 of 2013. In 2015, the REDD+ Agency developed the National FREL based on data from 2000-2012 (REDD+ Agency 2015).

After the accession of President Joko Widodo and the establishment of the MoEF, the duties and functions of the National REDD+ Agency were passed to the DGCC of MoEF. The development of REDD+ readiness at national and sub-national levels, including the FREL, MRV system, the national forest monitoring system (NFMS), the safeguards information system (SIS), and the funding instrument, are continuing under the new institutional arrangement described in Section 6 below.

In October 2016, Indonesia ratified the Paris Agreement, and in November submitted its first Nationally Determined Contribution (NDC) to the UNFCCC. The NDC outlines the country's transition to a low carbon and resilient future by describing the enhanced actions and the necessary enabling environment during the 2015-2019 period that will lay the foundation for more ambitious goals beyond 2020 (Republic of Indonesia 2016a).

Table 4 provides the Projected BAU and emission reductions for each sector under the NDC. In the NDC, the forestry sector is expected to play a significant role in achieving emission reductions. The expected volume of emission reductions and the percentage of total BAU of emission reductions is highest for the forestry sector for both unconditional (497 $MtCO_2e$, 17.2%) and conditional (650 $MtCO_2e$, 23%) reduction targets.

Table 4. Projected BAU and emission reduction from each sector under the NDC

No	Sector	GHG Emission Level 2010*	GHG Emission Level 2030 ($MtCO_2e$)			GHG Emission Reduction ($MtCO_2e$)		% of Total BaU		Annual Average Growth BAU (2010-2030) (%)	Average Growth 2000-2012 (%)*
		$MtCO_2e$	BAU	CM1	CM2	CM1	CM2	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

* Including fugitive, ** Including peat fire

Notes: CM1 = Counter Measure, unconditional mitigation scenario

CM2 = Counter Measure, conditional mitigation scenario

Source: Table 1 in Republic of Indonesia (2016a)

5. SUPPORT AND FUNDING FOR REDD+ READINESS AND IMPLEMENTATION

Since COP 13 in 2007, donor financing for REDD+ readiness has come from bilateral/regional donors, such as Norway, the Japan International Cooperation Agency (JICA), the UK Department for International Development (DFID), GIZ, the EU and AusAID, and multilateral schemes, such as the World Bank's FCPF and FIP, and the UN-REDD Programme. As Table 5 shows, the targets of these resources includes capacity building, establishment of the national FREL, design and implementation of MRV systems and the SIS, as well as the development of policies for the implementation of REDD+ (Gené 2012).

Table 5. Donor support for REDD+ in Indonesia

Programme/ Fund	Aim/purpose	Donor	Period	Amount, USD (million)
Climate Change Programme Loan	Develop public policies to support climate change adaptation and GHG reductions (forestry, energy, industry)	JICA, AFD, World Bank	2008-2010	1,000
Forest Investment Programme (FIP)	Support of REDD+ National Strategy & Readiness	FIP	2010-2012	80
Forest Carbon Partnership Facility (FCPF)	Management of readiness process (institutional setting and regulatory framework, capacity building, etc); support establishment of FREL and MRV; facilitate new REDD demonstration activities.	FCPF	2010-2012	3.6
International Climate and Forest Initiative	Support for REDD+	Norway	2010-2016	1,000
UN-REDD	Developing designs for payment mechanism linking to MRV system, stakeholder consultation and demonstration activities	UN-REDD	2010	5.6
Climate Change Support Programme	Providing technical assistance to BAPPENAS, meteorological agency, Ministry of Environment in support of NAMA development, MRV, and vulnerability assessment	JICA	5 years	10
Natural Environment Conservation Programme	Implementation of National Forestry Strategic Plan, Sub Sectoral Programme on Mangrove, and National Park Management	JICA	2009-2014	unknown
ALLREDDI	Assist Indonesia to account for land-use based GHG emissions and to be ready to use international economic REDD+ incentives for emission reduction through decision-making at the local and national level	EU	2009-2011	1.64

Collaborative land use planning and sustainable institutional arrangement for strengthening land tenure, forest and community rights in Indonesia	Avoid deforestation and environmental degradation by supporting the development of sustainable institutional arrangements promoting land policies and instruments involving local communities.	EU	2010-2014	3.26
Developing community carbon pools for REDD projects in selected ASEAN countries	Build capacity of local communities and local governments to actively participate in REDD+ pilot projects and feedback lessons learned into policy dialogues at sub-national, national and regional level.	EU	2010-2012	4.26
FORCLIME		GIZ	2010-2015	13.05
Indonesia's National Carbon Accounting System (INCAS)	Build government capacity for carbon accounting, and a system to support credible MRV of GHG for REDD.	IFCI, Australia	2007-2012	2
IFCA & support for REDD+	Preparation of strategies and analysis for the Government of Indonesia for COP 13.	Australian Department of Climate Change and AusAid.	2007-2012	3
Asia Pacific Forestry Skills and Capacity Building	Regional capacity for REDD	IFCI (Australia)	2008-2010	8
Improving governance, policy and institutional arrangement to REDD	Support policy and institutional development at provincial and district level to facilitate implementation of REDD	ACIAR	2008-2011	4.1
Indonesia Climate Change Trust Fund (ICCTF)	Support of ICCTF which has approved a programme on REDD	DFID	2010-2011	11.71
Multi-stakeholder Forestry Programme	Enabling conditions for legal and institutional reform toward SFM in place by 2011 that support poverty reduction, and climate change adaptation and mitigation in the forestry sector	DFID	2007-2011	12.33
Total				2,162.56

Source: Table 5 in Gené (2012) adapted from Brown and Peskett (2011)

6. STATUS AND FEATURES OF READINESS AT NATIONAL, SUB-NATIONAL AND PROJECT LEVELS

6.1. ORGANISATIONAL AND INSTITUTIONAL STRUCTURES FOR REDD+ READINESS AND IMPLEMENTATION

MoEF established the DGCC through Decree of Minister of Environment and Forestry No 18 of 2015 as the national focal point for the COP of the UNFCCC to facilitate relevant programmes and processes being implemented by a variety of government sectors and stakeholders. DGCC has responsibility not only for REDD+ readiness and implementation, but also for all climate change related programmes and activities, both for mitigation and adaptation[5]. Figure 1 shows the organisational structure of MoEF and its roles in REDD+ readiness and implementation. DGCC is the national focal point for REDD+ and is responsible for coordinating, synchronising, planning, facilitating, managing, monitoring, supervising, and controlling the implementation of REDD+. In fulfilling these responsibilities, it is expected to collaborate with relevant directorate generals (DG) within MoEF (e.g. DG of Forestry Planning & Environmental Management, DG of Social Forestry and Environmental Partnership, and DG of Law Enforcement of Environment and Forestry and Agency for Research, Development and Innovation), other relevant ministries and agencies (e.g. Ministry of Finance, Ministry of Foreign Affairs, Ministry of Agriculture, National Development Planning Agency (BAPPENAS) and Ministry of Law and Human Rights), as well as relevant research institutes, NGOs, international organisations, and private sector actors.

DGCC has made progress on various elements of the national REDD+ architecture, drawing on the work and support of other actors. The national FREL submitted to the UNFCCC in 2015 was developed by DGCC in collaboration with relevant experts from forestry and other land use sectors. DGCC developed the framework for the MRV system for mitigation and a comprehensive national registry system for climate change, as well as tested the Safeguard Information System (SIS REDD+) developed by the Centre for Standardisation and Environment. DGCC also coordinated several safeguard initiatives including PRISAI and REDD+SES. DGCC is working closely with the Ministry of Finance to develop and prepare a national mechanism for REDD+ funding. In addition, DGCC is drafting a new decree for the Minister of Environment and Forestry on implementation of REDD+, which is expected to include the FREL, MRV, SIS and the funding instrument (personal communication with DGCC staff, February 2017; Widyaningtyas (2016a); MoEF (2017b); MoEF (2017c)).

[5] The functions of DGCC are: 1) Policy formulation, 2) Policy implementation, 3) Development of norms, standards, procedures and criteria, 4) Coordination and synchronisation, 5) Technical guidance and supervision, 6) Evaluation and reporting on mitigation, adaptation, greenhouse gases emissions reduction, reduction and abolishment of ozone depleting substances, mobilisation of resources, greenhouse gases inventory, MRV for climate change, and prevention and control of forest and land fires, 7) Administration of Directorate General of Climate Change and 8) Implementation of other functions assigned by MoEF (MoEF 2017a).

As shown in Figure 1, one element of REDD+ readiness, the NFMS, falls outside the responsibilities of DGCC. Responsibility for the NFMS is tasked to the Directorate General Forest Planning and Environmental System (DGFP) of MoEF.

The Minister of MoEF established the steering committee for national level climate change control in 2015. This steering committee coordinates relevant ministries and agencies on climate change issues, such as MoEF, BAPPENAS, Ministry of Finance, Ministry of Agriculture, Ministry of Agrarian Affairs and Spatial Planning, and the Ministry of Energy, Resources and Minerals.

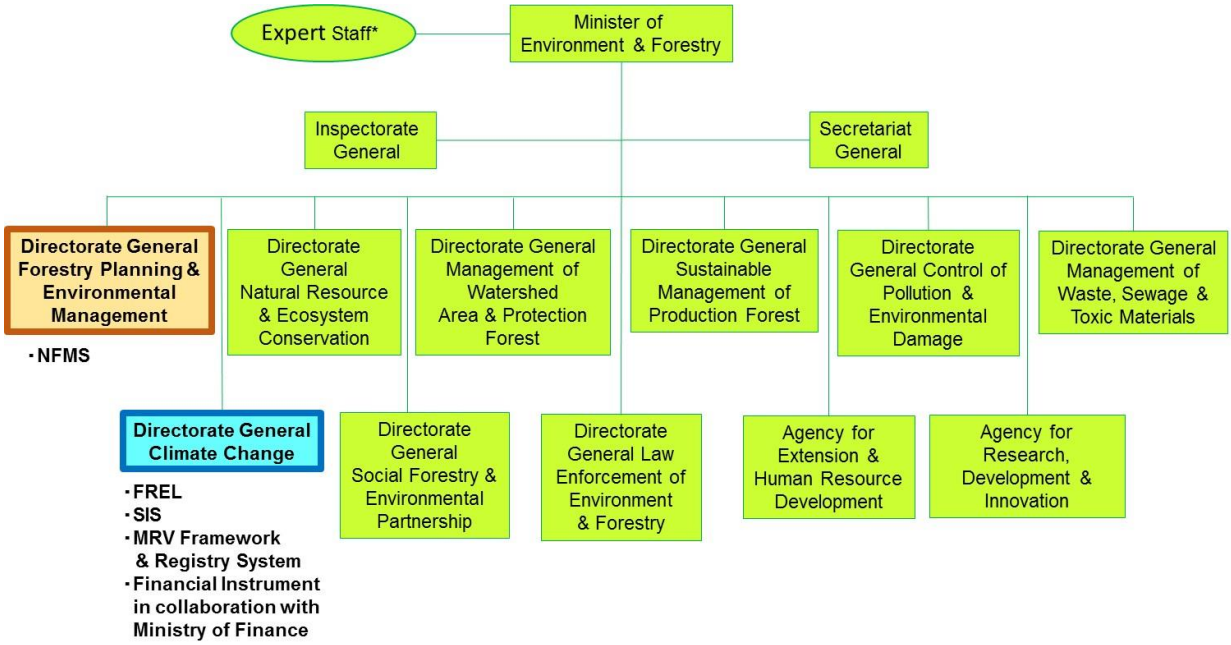

Figure 1. Organisational structure of MoEF and role in REDD+ readiness and implementation

*The fields of "expert staff" are 1. relationship between central and regional institutions, 2. industry and international trade, 3 energy, 4. economy of natural resources and 5. food.

Source: Annex Chapter II, Organisational Structure of the Ministry of Environment and Forestry in Decree of Minister of Environment and Forestry Indonesia No P. 18 2015, on Organisation and Working Procedures of Ministry of Environment and Forestry, with modification (the roles of DGCC and DGFP in REDD+ readiness and implementation are added)

6.2. NATIONAL LEVEL READINESS

6.2.1. NATIONAL REDD+ STRATEGY

The National REDD+ Strategy was developed by the REDD+ Task Force in 2012 under LOI Norway-Indonesia. It aims at achieving four main long term goals in the REDD+ National Strategy Framework: 1) Reduction of GHG emissions originating from Land Use, Land-use Change, and Forestry (LULUCF), 2) An increase in carbon stocks, 3) Preservation of biodiversity, and 4) An increase in the value and sustainability of the economic functions of forest. To achieve these goals, the strategy builds on five pillars: 1) Development of a REDD+ institutional system, 2) Review and strengthening of policies and regulations, 3) Launching of strategic programmes, 4) Changes to work paradigm and culture, and 5) Inclusion/involvement of stakeholders (Figure 2) (REDD+ Task Force 2012a).

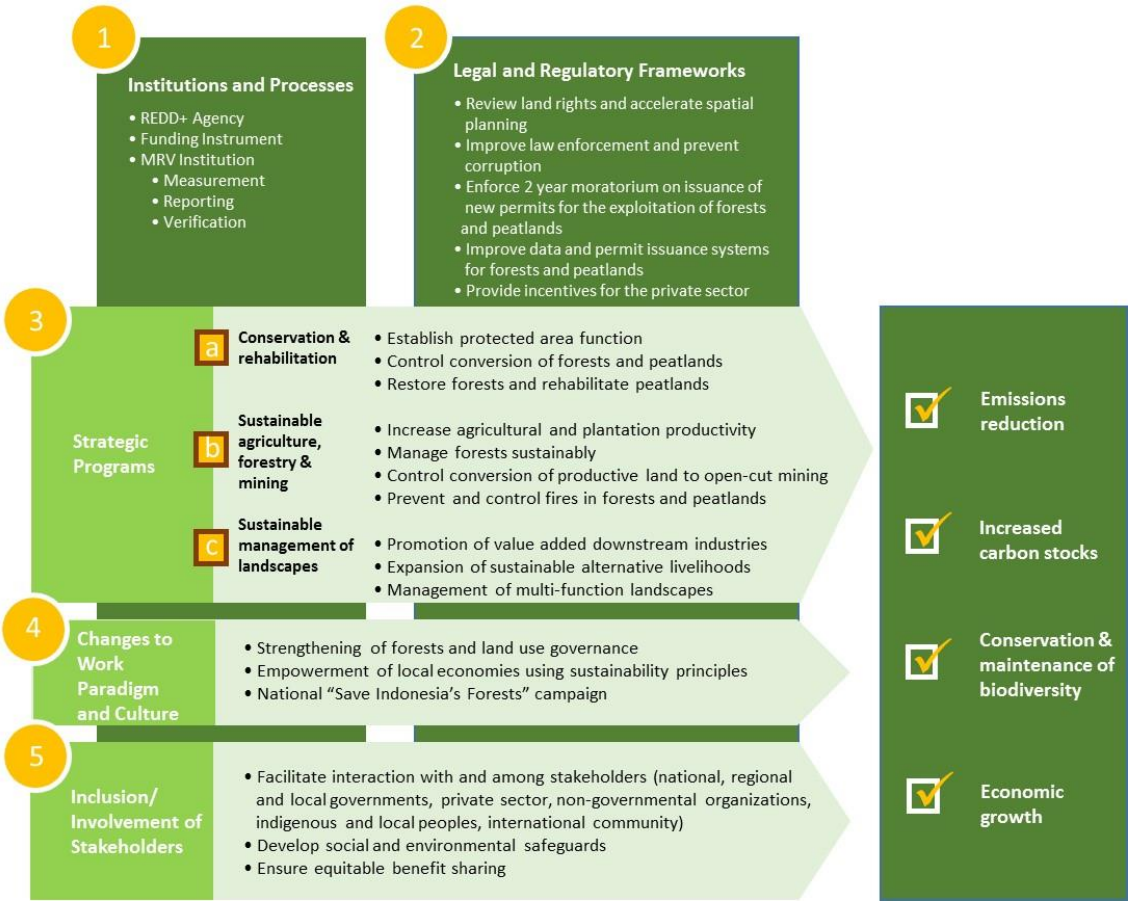

Figure 2. REDD+ National Strategy Framework with Five Main Pillars
Source: REDD+ Task Force (2012a) Graphic 2.1

Under this strategy, REDD+ institutions, such as the REDD+ Agency, were established and the basic framework of MRV and financial instrument (FREDDI) were constructed. According to one DGCC staff however, the national REDD+ strategy needs to be reviewed and revised if necessary in accordance with the national development plan of the new President (personal communication, December 2015). The current National REDD+ Strategy has been reviewed by DGCC and there is a possibility that it will be revised under the new political and institutional arrangement.

6.2.2. FOREST REFERENCE EMISSION LEVEL

The latest national FREL was developed by MoEF and submitted to the UNFCCC Secretariat in December 2015. The technical assessment by experts assigned by the UNFCCC was completed in November 2016.

The main features of the national FREL are shown in Table 6. The scope of the FREL is deforestation and forest degradation. Two carbon pools, aboveground biomass and soil carbon in peat land, are included. For emission sources, only CO_2 is counted; other GHGs such as CH_4 and N_2O are not. For the emissions from peat land, only emissions from peat decomposition after drainage are calculated. Emission from peat fires are excluded, due to complications and high uncertainty in their assessment. To establish the FREL, wall-to-wall land cover maps were produced using Landsat satellite images. The land cover data was generated by the NFMS. The primary source of data used to derive emission factors was the National Forest Inventory. Emission factors from peat land is Tier 2 data from "2013 Supplement to the 2006 IPCC Guidelines for National GHG Inventory: Wetlands".

The annual historical emissions from deforestation, forest degradation and the associated peat decomposition from 1990-2012 is depicted in Figure 3. The forest reference emission level from deforestation and forest degradation was set at 351.2$MtCO_2e$ yr^{-1} (Deforestation: 293.2 $MtCO_2e$ yr^{-1}, Degradation: 58.0 $MtCO_2e$ yr^{-1}) for above ground biomass. The additional emission of 217$MtCO_2e$ yr^{-1} from peat decomposition was added with an annual linear increment of as much as 1.6% (R^2 93%) because of "inherited emissions" [6]. Based on historical emissions from 1990-2012, the emissions from deforestation, forest degradation and the associated emissions from peat decomposition for 2013 are projected to be 569 $MtCO_2e$ yr^{-1}. In 2020, this figure is projected to increase to 593$MtCO_2e$ yr^{-1}.

After the submission of the national FREL to the UNFCCC, initiatives to develop sub-national FRELs coordinated with the national FREL were launched. The methodology used for the national FREL was partly applied to establish the FREL for West Kalimantan (Hardiansyah et al. 2016) and the FREL for East Kalimantan, which were presented in the Emission Reductions Program Idea Note (ER-PIN) of the FCPF Carbon Fund programme (Republic of Indonesia 2016c). An effort was made to align these two sub-national FRELs with the National FREL.

[6] Peat emissions are calculated not only at the time deforestation occurred, but over longer periods until organic matter is fully decomposed.

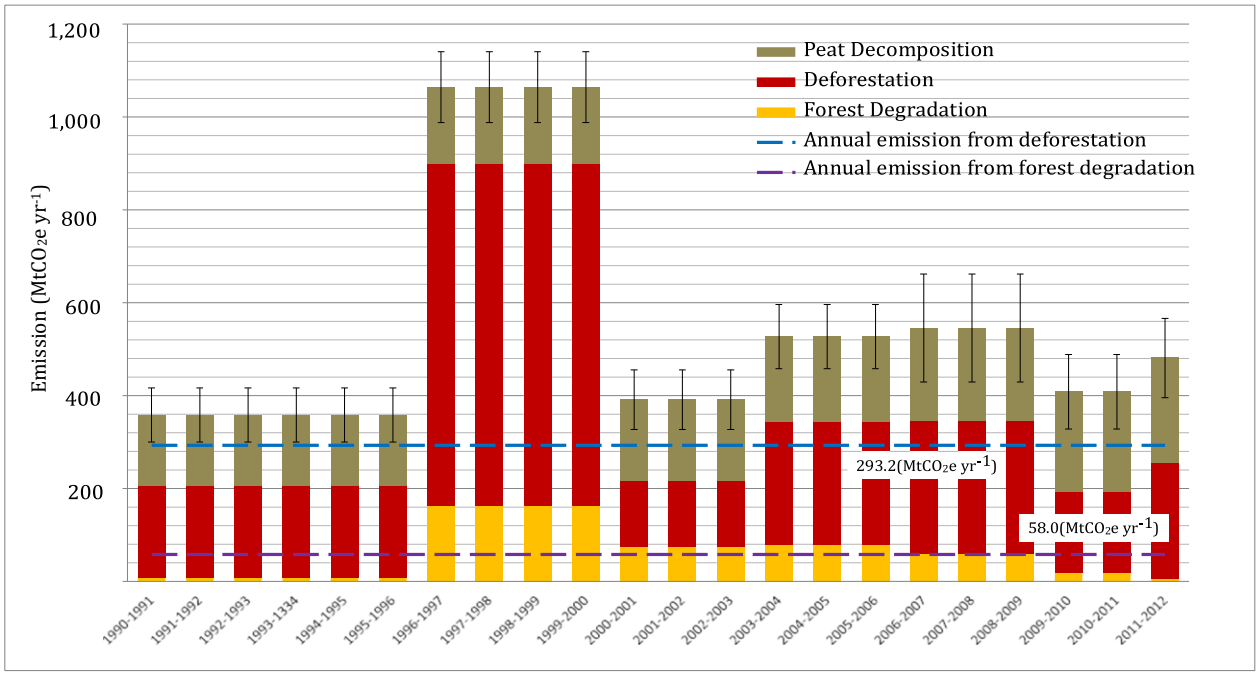

Figure 3. Annual and average historical emissions from deforestation, forest degradation and associated peat decomposition ($MtCO_2e$) in Indonesia from 1990 to 2012
Source: Figure 11 in MoEF (2015a)

Table 6. Main features of national FREL

Responsible organisation	Directorate General of Climate Change, Ministry of Environment and Forestry
Reference area	113.2 million ha of natural forests in 1990 (60% of the land area of Indonesia)
Reference period	1990-2012
Definition of forest	• Formal definition: "Land spanning more than 0.25 ha with trees higher than 5 m at maturity and a canopy cover of more than 30%, or trees able to reach these thresholds in situ": Definition of forest stated in Minister of Forestry Decree No 14/2004 on A/R CDM. • Working definition: "a land area of more than 6.25 ha (minimum mapping unit) with trees higher than 5 meters at maturity and a canopy cover of more than 30 percent" (See Section 2.3)
Definition of peat land	An area with an accumulation of partly decomposed organic matter, water saturated with carbon content of at least 12% (usually 40-60% carbon content) and the thickness of the carbon rich layer of at least 50 cm.
Scope	Deforestation and forest degradation both on mineral and peat soil (Forest degradation at a finer level, conservation of forest carbon stocks, sustainable management of forests, and enhancement of forest carbon stocks, were excluded because of limited data.)
Approach	Stock difference approach using historical deforestation rate

Carbon Pools	Two carbon pools – aboveground biomass and soil carbon in peat land experiencing deforestation and forest degradation
GHG emissions	CO_2 (Other GHGs such as CH_4, N_2O, hydro fluorocarbon, and perfluorocarbon are not counted because CO_2 is the dominant constituent element of the GHG emissions.)
Emissions from peat land	Drainage emissions from peat decomposition are calculated (Emission from peat fires are excluded due to complexities and uncertainties. Although peat fire was excluded, emissions from the loss of above ground biomass due to fires was taken into account when deforestation and forest degradation were calculated.)
Land cover data	Wall-to-wall land cover maps were produced using Landsat satellite images. Data sets for 1990, 1996, 2000, 2003, 2006, 2009, 2011 and 2012 were used to capture historical land cover transitions.
Peat land data	The peat land spatial data used in the FREL was provided by the Ministry of Agriculture and is based on maps, field surveys and ground verification.
Emission factors	The primary source of data used to derive emission factors was the National Forest Inventory
Emission factors for peat land	2013 Supplement to the 2006 IPCC Guidelines for National GHG Inventory: Wetlands
Uncertainty calculation	The average uncertainty for all emissions is 16.1%

Source: MoEF (2015a), Republic of Indonesia (2016b)

6.2.3. NATIONAL FOREST MONITORING SYSTEM[7]

The NFMS has been developed by the DGFP of the MoEF. The NFMS consists of a land cover mapping system and a national forest inventory.

6.2.3.1. *Land cover mapping system*

The DGFP has used satellite data since the 1990s, particularly Landsat imagery, for land cover mapping of Indonesia. The mapping system was first established in 2000. Maps were updated every three years based on data availability. A change in the Landsat data policy of the United States Geological Survey (USGS) in 2008 made Landsat data available free of charge. This enabled Indonesia to update the land cover map on an annual basis. The land and forest cover maps were digitised for the entire national territory at a scale of 1:250,000. The data sets of 1990, 1996, 2000, 2003, 2006, 2009, 2011 and 2012 were used to capture historical land cover data for the national FREL. The FRELs of West Kalimantan (Hardiansyah et al. 2016) and East Kalimantan (Republic of Indonesia 2016c) also used the data of the land cover mapping system.

[7] Information of this sub section is from MoEF (2015a)

6.2.3.2. *National Forest Inventory*

The development of the National Forest Inventory (NFI) was initially supported by a World Bank and United Nations project from 1989 to 1996. The NFI was designed to encompass all components related to forest inventory at a national scale. These included the Field Data System (FDS), Digital Image Analysis (DIAS), Geographic Information System (GIS) and National Forest Inventory Information Service (NFIIS). Through this project, forest inventory plots, both permanent sample plots (PSPs) and temporary sample plots (TSPs), have been established and measured. The plots are located using systematic sampling throughout the country for every 20 km by 20 km grid. All plots were established in lowland areas below 1,000 m above sea level.

The NFI system has been implemented as part of the regular programme of the DGFP. The activities include re-measurement of the established PSPs that still exist, establishing new PSPs/TSPs in areas to fill the "gaps", and additional plots in mountainous regions and conservation areas. Since the commencement of the NFI programme in 1989, the PSPs and TSPs that have been established and measured through to 2014 total 3,928 clusters distributed in 7 major islands/regions: Java (92), Kalimantan (1,277), Maluku (225), Nusa Tenggara (307), Papua (540), Sulawesi (565) and Sumatera (922) (MoEF 2015a).

An online data system for the NFI has been established and is available at http://nfms.dephut.go.id/ipsdh/. This is coupled with web-based GIS at http://webgis.dephut.go.id/ for display and viewing.

6.2.3.3. *MRV Framework and registry system*

DGCC is developing a national MRV system for mitigation (Figure 4). The role of DGCC in the MRV system is verification of mitigation actions.

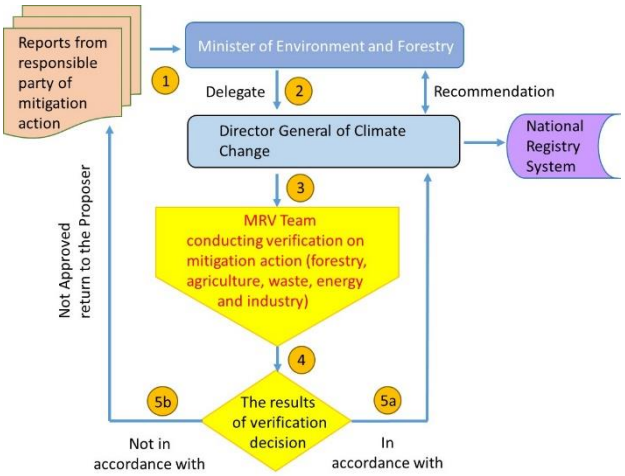

Figure 4. Design of the MRV and registry system under construction by DGCC[8]
Source: Gambar 2 in MoEF (2015d)

[8] The numbers in Figure 4 refer to the following:
1) Responsible party for action (government/private entity) submits the report on Climate Change Mitigation Action achievement to Minister of Environment and Forest,
2) Minister sends the report documents to the Director General of Climate Change who is responsible for verification,
3) Director General of Climate Change commissions the MRV team, which consists of the Verification Technical Team (work unit under the DGCC and experts) to conduct an assessment of the report in the forestry, agriculture, waste , energy and industry sectors,
4) MRV team (the Verification Technical Team) conveys the results of the verification report to the Director General of Climate Change,
5) Director General of Climate Change makes recommendations to the Minister,
5a) Approval is given, if the assessment results are in accordance with the report document. The achievement of climate change mitigation actions is registered into the national registration system,
5b) Decision for rejection, if the assessment finds incompatibilities in the verification result. The Director General of Climate Change returns the report documents to the responsible party of the action with the results of the assessment (MoEF 2015d).

In November 2016, MoEF launched a new National Registry System on Climate Change Control (http://ditjenppi.menlhk.go.id/srn/) to register all mitigation and adaptation activities as well as support received for climate change control activities. The purposes of the National Registry System are: 1) Data collection on climate change mitigation and adaptation action and resources in Indonesia, 2) Government recognition of the contribution of various stakeholders to support climate change control, 3) Preparation of data and information for the public regarding adaptation and mitigation actions and resources, as well as achievements, 4) Avoiding double counting of actions and resources for adaptation and mitigation, respecting the principles of clarity, transparency and understanding (CTU) (MoEF 2016a).

As of the November 2016, 73 activities have been registered, including 11 REDD+ activities undertaken by government authorities.

6.2.4. SAFEGUARD INFORMATION SYSTEM

To translate the Cancun REDD+ safeguards into the national context, several national and sub-national safeguards systems have been developed under different initiatives. These are:

1) SIS-REDD+, developed by the Centre for Standardisation and Environment, MoF (MoF 2013a and MoF 2013b)
2) PRISAI, developed by the REDD+ Task force (REDD+ Task Force 2013a)
3) REDD+ SES (Social and Environmental Safeguards), facilitated by the Climate Community and Biodiversity Alliance (CCBA) and CARE International (REDD+ SES 2012).

Each initiative has developed its own principles, criteria and indicators/framework for safeguards. The common approach of these three initiatives is employing multi-stakeholder processes and interpreting and utilising existing instruments related to safeguards, such as Environmental Impact Assessment (AMDAL), Sustainable Forest Management and Production (PHPL) and System for Verification of Timber Legality (SVLK). Coherence, synergy and coordination among the safeguards-related initiatives (including past and present) are needed.

DGCC is developing the institutional arrangements, information flow, and assessment tools for safeguards implementation, as well as a web-based Safeguard Information System for SIS-REDD+. In 2011, MoF, now DGCC-MoEF, was designated as the national agency responsible for managing this system.

SIS-REDD+ has been tested in two Provinces – East Kalimantan and Jambi. The Forestry Office of East Kalimantan and the Forestry Information Service Centre of Jambi Province (Balai Pelayanan Informasi Kehutanan Jambi) were designated as the responsible agencies. For REDD+-related projects, the project proponents are considered "data providers," i.e. they will be involved in the management of safeguards data at the site level.

The "assessment tools for safeguards implementation" are the relevant documents/evidence of safeguards implementation for each indicator of SIS-REDD+ (MoF 2013b). The evaluation will be conducted through "self-assessment" by project proponents with a Yes/No check list,

which asks whether the relevant documents/evidence are prepared or not. The results of the assessments will be reported by the project proponents to the responsible sub-national agency every six months. In provinces where the sub-national SIS is not yet established, the report from the project proponents will be sent directly to the national SIS-REDD+ agency (DGCC). This information will be reconciled, managed, and reported to the UNFCCC through the National Communications, as one among various possible channels. As of February 2016, 15 REDD+ safeguards activities are registered on the website for SIS-REDD+, though details are not yet available (http://sisredd.menlhk.go.id/).

It can be anticipated that REDD+ projects that fully satisfy the requirements of existing laws, regulations and the mandatory standard systems related to safeguards will comply with many of the SIS-REDD+ safeguards. The associated documents can be used in the self-assessments for SIS-REDD+. However, project proponents will have to take additional measures and prepare documents and other evidence for the indicators that are not covered by existing instruments. Validation by voluntary carbon schemes with strong safeguard elements, such as the Climate, Community and Biodiversity Standards and Plan Vivo, or by voluntary forest certification schemes, is likely to assist project proponents in fulfilling these requirements. Validation by these schemes would also reduce the high variation in quality of actions and reporting that can be expected from self-assessment.

6.3. SUB-NATIONAL REDD+ READINESS

REDD+ in Indonesia is a national approach with sub-national implementation. According to the National REDD+ Strategy, each provincial government can create a REDD+ institution to organise and implement its Regional REDD+ Strategy and Action Plan. Regional REDD+ agencies will coordinate the following thematic activities: 1) MRV of emissions reductions; 2) assurance of the effectiveness of REDD+ funding; and 3) periodic reporting on developments in regional programmes/projects/activities to the national REDD+ Agency. District governments can also establish REDD+ institutions to coordinate all aspects of district-level REDD+ activities and report results to the provincial level.

Eleven provinces have been selected as priority provinces for sub-national REDD+ readiness: Aceh, West Sumatera, Riau, Jambi, South Sumatera, West Kalimantan, Central Kalimantan, East Kalimantan, Central Sulawesi, West Papua and Papua (Figure 5). The 11 priority provinces have developed a regional REDD+ Strategy and Action Plan in line with the REDD+ National Strategy. With the exceptions of West Kalimantan, West Papua and Papua, the provinces concluded memoranda of understanding with the REDD+ Agency for collaboration in REDD+ implementation.

The 11 priority provinces each identified and implemented focus activities for REDD+ that the REDD+ Task Force and the REDD+ Agency in collaboration with Norway supported up to 2014 (Table 7) (MoEF 2015f). Education programmes and capacity building for students and villagers related to “green schools” and “green villages” were identified as important activities in most of

the provinces. Recognition and protection of indigenous communities are also key concerns for many provinces. Prevention and control of forest fire are identified as key activities in provinces that have experienced serious peat fire damage. In forest rich provinces, such as Central Sulawesi, West Papua and Papua, sustainable forest management is the main focus for REDD+.

After MoEF was established, Indonesia and Norway agreed to continue the ongoing and/or already committed activities at national and sub-national levels of the REDD+ Task Force and REDD+ Agency. Five provinces facing frequent forest and peat fire (Riau, Jambi, South Sumatera, West Kalimantan and Central Kalimantan) and West Sumatera were selected for the programme. The programme activities consists of 1) Fire prevention, 2) Enhanced law enforcement, 3) Conflict management, 4) Protection and recognition of customary communities, and 5) Social forestry (CBFM) (MoEF 2015e).

As progress on national REDD+ readiness has been made, the focus of REDD+ readiness is moving from the national to the sub-national level. DGCC is now developing guidance for establishing sub-national FREL (Widyaningtyas 2016a, b).

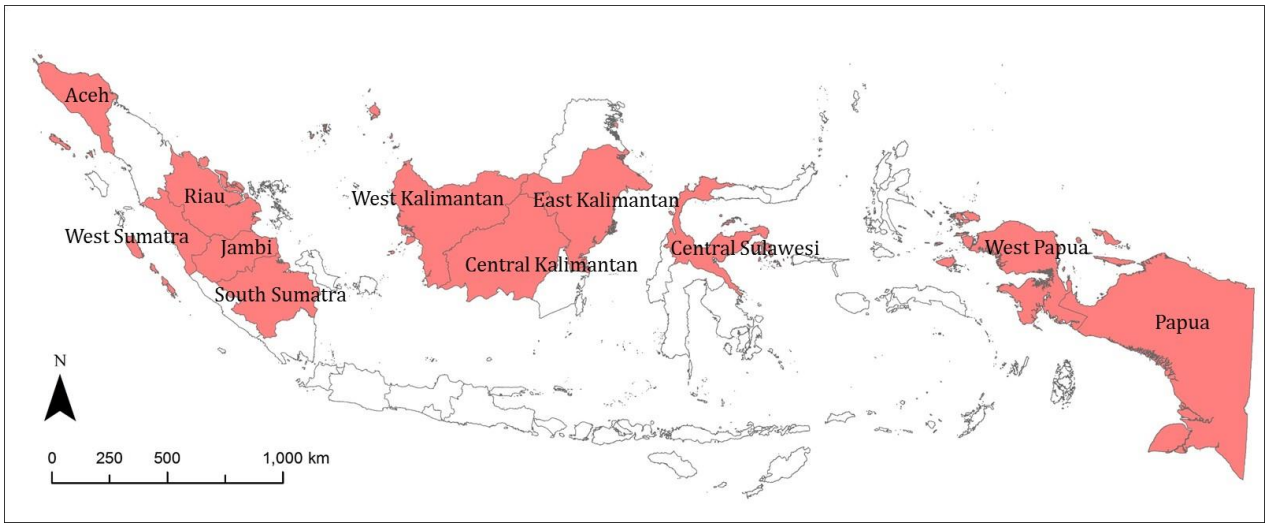

Figure 5. Location of 11 pilot provinces for sub-national REDD+ readiness and implementation in Indonesia

Table 7. REDD+ focus activities in 11 provinces coordinated by the REDD+ Task Force and REDD+ Agency in collaboration with Norway

Province	Activities
Aceh	Natural forest conservation and forest management (*konservasi hutan alam dan kemandirian pengelolaan hutan Aceh*) ・Complete regional spatial plan through dialogue between government and NGOs ・Develop REDD + Coordination Platform ・Rehabilitation Action Plan of Tripa swamp
West Sumatera	Ecosystem conservation through forest and land management based on *Nagari* village ・Recognition and protection of indigenous community ・Thematic Kuliah Kerja Nyata (KKN) ・Green school ・Field school ・Green village
Riau	Prevention and control of forest and land fires ・Compliance audit ・Law enforcement ・Forest fire control unit ・Citizen journalism ・Community Based Forest Fire Prevention and Management (CBFFM) ・Green school
Jambi	Recognition and protection of indigenous community and promoting green development ・Capacity building for the Orang Rimba (forest dependent people) and customary forest management ・Green school ・Green village ・Prevention and control of forest fire ・Integrated REDD+ planning ・Training centres and situation room (in preparation)
South Sumatera	4P (pro-growth, pro-jobs, pro-poor, and pro-environment) in green development ・Sustainable peat land management ・Ecosystem restoration ・Prevention and control of forest fire ・Natural forest conservation ・Green school
West Kalimantan	4P in green development ・Recognition and protection of indigenous community ・Prevention and control of forest fire ・Citizen journalism ・Assessing licensing ・Green village
Central Kalimantan	Encourage green development through coordination of provincial platform ・Management of 1 million ha of peat land project ・Recognition and protection of indigenous community ・Facilitation of prevention and control of forest fire ・Citizen journalism ・Green school ・Green village ・Training centres and situation room ・Updating basic data and map (“one map”)
East Kalimantan	4P in green development ・Securing karst ecosystem and the Mahakam delta ・Natural forest conservation ・Green school ・Green village

Central Sulawesi	Sustainable forest management through FMUs ・Law enforcement ・Forest governance ・Recognition and protection of indigenous community ・Tenure ・Regional spatial planning
West Papua	Sustainable forest management for community welfare ・Facilitation of conflict resolution for natural resource management and forest conservation ・Recognition and protection of indigenous community (including community logging) ・REDD+ management unit ・Green village ・Green school
Papua	Sustainable forest management for community welfare ・Facilitation of conflict resolution for natural resource management and forest conservation ・REDD+ management unit ・Recognition and protection of indigenous community (including community logging) ・Green village ・Green school

Source: MoEF (2015f)

6.4. SUB-NATIONAL AND PROJECT LEVEL REDD+ DEMONSTRATION ACTIVITIES

Table 8 shows the 35 REDD+ demonstration activities were recognised by MoF as of 2014 (MoEF 2015g). These demonstration activities have been developed by governments, NGOs and private sector actors. According to DGCC, the demonstration activities have provided many experiences and lessons for REDD+ readiness in Indonesia and contributed to the development of Indonesian national standards, such as SNI 7724, SNI 7725 and SNI 7748 (MoEF 2015f).

For those demonstration activities that provided data, the average area is 704,534 ha. The number of activities by type recorded for these projects is: REDD, 29; Conservation, 12; Sustainable management of forest, 7; Enhancement of forest carbon stock, 4; Development of REL/RL, 22; Development of MRV, 21; Development of institutions, 10; Development of financial/incentive distribution mechanism, 3; Implementation of safeguards activities, 28 (MoEF 2015g). These figures show that most projects focus on REDD activities and few are implementing "plus" activities.

Of the 35 demonstration activities, several are involved in voluntary carbon schemes. The Rimba Raya Biodiversity Reserve project and the Katingan Peatland Restoration and Conservation Project in Central Kalimantan have been validated and verified by both the Verified Carbon Standard (VCS) and Climate, Community and Biodiversity Alliance (CCBA). The Korea-Indonesia FMU/REDD+ Joint Project in Tasik Besar Serkap in Riau is undergoing VCS validation[9].

[9] More information on these projects is available from the VCS project database (http://www.vcsprojectdatabase.org/#/home) and the CCBA (http://www.climate-standards.org/category/projects/).

Proponents of the five REDD+ demonstration activities in East Kalimantan (Forests and Climate Change Programme Financial Cooperation Modules, Berau Forest Carbon Programme, Adaptation of Forest Resource Management by Local People, Transforming West Kutai Spatial Planning toward Forest Low Carbon and Management of Peatland Conservation Area) are participating in the FCPF Carbon Fund emissions reduction programme. They are expected to contribute to sub-national REDD+ readiness and results-based payments in East Kalimantan. The expected period of the FCPF emissions reduction programme is 2018-2024.

In West Kalimantan, the IJ-REDD+ project supported the development of sub-national FREL in collaboration with GIZ FOLCLIME and Fauna & Flora International (FFI). The FREL was published in September 2016 (Hardiansyah, 2016). This FREL applied the same methodology used for the National FREL, with some exceptions (e.g. emission factors are derived from data generated by sample plots developed by the provincial environmental agency, GIZ FOLCLIME and FFI).

Further research and analysis on vertical and horizontal coordination among these REDD+ demonstration activities, as well as on jurisdictional and nested approaches, is now needed.

Table 8. REDD+ demonstration activities in Indonesia, 2014

Name	Location	Project Participants	Area (ha)	Activities**
1. Tropical Forest Conservation Act (TFCA) Sumatera	Sumatera	KEHATI, WWF, TNC, local NGO	-	REDD, SMF, Cons, Inst, SG
2. Batang Toru REDD Project	North Sumatera	CI, OCSP, others	150,000	REDD, REL/RL, MRV, SG
3. Kampar Ring	Riau	APRIL	56,000	SFM, SG
4. REDD+ of Tesso Nilo Forest Complex	Riau	WWF, Tesso Nilo National Park Centre	160,000	REDD, REL/RL, SG
5. Korea Indonesia FMU/REDD+ Joint Project in Tasik Besar Serkap	Riau	MoEF, Korea Forest Service, Riau Provincial Foresty Office	14,000	SFM, Inst
6. Giam Siak Kecil-Bukit batu Biosphere Reserve: REDD+ Pilot Project in Bengkalis and Siak	Riau	Sinarmas Forestry, MoEF, LIPI, Riau Provincial Government	178,722	REDD, Cons, SG
7. Berbak Carbon Initiative Project: A REDD Preparation in Berbak Ecosystem, Jambi	Jambi	ZSL, MoEF, Darwin Initiative	237,000	REDD, Inst, Cons, REL/RL, MRV,SG
8. Merang REDD Project	South Sumatera	Global Alam Lestari, Agrinergy	22,280	Cons, Enhance, REL/RL, MRV, SG, Incent

9. DANIDA Support to Harapan Rain Forest (DSHRF)	Jambi, South Sumatera	Burung Indonesia, DANIDA, others	100,000	REDD, Enhance, REL/RL, MRV, SG
10. Community Forest Ecosystem Services Indonesia (CFES Indonesia)	Jambi, West Kalimantan, West Nusa Tenggara	Fauna& Flora International	5,554	REDD, REL/RL, MRV, SG
11. Capacity Building for Restoration of Ecosystems in Conservation Areas (RECA)	Central & East Java	JICA, MoEF, FORDA, LIPI, others	>10,000	Cons, Inst
12. Reforestation of Bromo-Tengger-Semeru National Park	East Java	Sumitomo Forestry Co Ltd., MoEF	1,000	Enhance, Cons, Inst
13. Tropical Forest Conservation for REDD+ in Meru Betiri National Park	East Java	PUSPIJAK, TNMB, LATIN	58,000	REDD, Cons, Inst, REL/RL, MRV, SG
14. Tropical Forest Conservation Act (TFCA) Kalimantan	Kalimantan	KEHATI, WWF, TNC, Local NGO	-	REDD, SFM, Cons, Inst, SG
15. Reducing Emission from Deforestation Caused by the Oil Palm Sector in West Kalimantan	West Kalimantan	FFI, Oil palm companies	27,280	REDD, REL/RL, MRV
16. Rehabilitation of the Sungai Putri Peat Swamp Forest, Ketapang, Kalimantan	West Kalimantan	PT Wana Hijau Nusantara, FFI, others	10,300	REDD, SG
17. Indonesia-Japan Project Development of REDD+ Implementation Mechanism (IJ-REDD+)	West and Central Kalimantan	JICA, MoEF, Gunug Palung National Park	-	REDD, REL/RL, MRV, Inst
18. Community Carbon Pool	West Kalimantan	FFI, Packard		REDD, REL/RL, MRV, SG
19. Danau Siawan-Belida Ecological Restoration Concession: Conservation of the Upper Kapuas Lakes System	West Kalimantan	PT WHN, FFI, Macquarie	39,000	REDD, REL/RL, MRV, SG
20. Forests and Climate Change Programme (FORCLIME) Financial Cooperation Modules	West & East Kalimantan	KfW, GIZ, MoEF, GFA, Provincial and district governments	-	REDD, SFM, REL/RL, MRV, Inst, Incent, SG

21. Rimba Raya Biodiversity Reserve REDD Project: Avoided (Planned) Deforestation in Central Kalimantan (Borneo) Indonesia	Central Kalimantan	PT Rimba Raya Conservation, Infinite-EARTH, others	91,215	REDD, SFM, REL/RL, MRV, SG
22. Community Carbon Project for Lamandau Wildlife Reserve	Central Kalimantan	RARE, YAYORIN, others	23,796	REDD, SG
23. Katingan Peat Restoration and Conservation Project	Central Kalimantan	PT RMU, Starling Resources	217,755	REDD, SFM, REL/RL, MRV, SG
24. Sebangau Restoration Project	Central Kalimantan	WWF, Sebangau N.Park	85,000	REDD, Cons, REL/RL, MRV, SG
25. Ecosystem Restoration Concession on Production Forest Concession to Release Orang Utan Using REDD+ Scheme	Central Kalimantan	PT RHOI	86,450 ERC	Cons, REL/RL, MRV, SG
26. REDD in HoB: Leboyan Corridor, Bukit Baka-Bukit Raya National Park	Central Kalimantan	WWF, BMU, MoF (now MoEF)	-	REDD, Cons, REL/RL, MRV, SG
27. Berau Forest Carbon Programme	East Kalimantan	TNC, ICRAF, Mulawarman Univ, others	2.2 million	REDD, REL/RL, MRV, Inst, Incent, SG
28. SETAPAK (Selamatkan Hutan dan Lahan melalui Perbaikan Sistem Tata Kelola) Program	North Kalimantan	STABIL, PIONIR, TAF	-	REDD, SG
29. Adaptation of Forest Resource Management by Local People	East Kalimantan	Bioma	-	REDD, SG
30. Transforming West Kutai Spatial Planning Toward Forest Low Carbon: Kalimantan Timur Province	East Kalimantan	WWF, Bebsic, Bioma, MoEF	3.9 million	REDD, Cons, REL/RL, MRV, SG
31. Management of peatland conservation area	East Kalimantan	Pokja TKLH-LK REDD, Bioma, others	-	REDD, SG
32. REDD Involving Community in Jayapura District: Papua Province	Papua	WWF, MoEF	540,000	REDD, REL/RL, MRV, SG

33. Memberamo Basin Carbon & Community Conservation	Papua	Cl, Papua Province Government, CSIRO, CIFOR, others	8 million	REDD, REL/RL, MRV
34. Papua Avoided Deforestation Initiatives	Papua	Sekala, PCSSF, WRI, Telapak	1.4 million	REDD, REL/RL, MRV
35. TEBE (Toward Enabling Mitigation of Climate Change Through Promotion of Community-Based Economic Growth) Project	East Nusa Tenggara	KYEEMA Foundation, AusAID, others	-	REDD, Enhance, SG

Source: MoEF (2015g)

Abbreviations: Inst: Institution, Incent: Incentive, SG: Safeguards, Enhance: Enhancement of Carbon Stocks, SFM: Sustainable Forest Management, Cons: Conservation of forest carbon stock.

7. SUMMARY

Despite numerous challenges REDD+ readiness in Indonesia is progressing on many fronts. Even though Indonesia experienced a major transformation of the organisational arrangements for REDD+ readiness and implementation with the merging of the Ministry of Environment, MoF, REDD+ Agency and National Council of Climate Change into the new MoEF, this did not slow the pace of national REDD+ readiness. The national FREL was submitted to the UNFCCC at COP 21 in 2015; the NFMS provided data for the FREL; the National Registry System was launched in 2016; several safeguards-related systems/initiatives were developed and DGCC is now coordinating these works and initiatives; and DGCC is developing the funding instrument for REDD+ in collaboration with the Ministry of Finance. Much of the national REDD+ architecture is in place, with some exceptions, such as the funding instrument.

The focus of REDD+ readiness is moving from the national level to the sub-national level. Eleven pilot provinces have developed provincial REDD+ strategies and action plans. However, in most cases their development of RELs, MRV systems and safeguard information systems is limited. An exception is West Kalimantan, where the provincial government developed and published a FREL that is coordinated with the national FREL. DGCC is currently developing guidance for sub-national REDD+ FREL. Progress can also be observed in the FCPF Carbon Fund emissions reduction programme initiated in East Kalimantan under the strong initiative of governor. This programme is expected to become a model of sub-national REDD+ implementation with results-based payment. At least 35 REDD+ demonstration activities including both sub-national and project level activities were identified and registered by MoEF as of 2014.

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APPENDIX

Standard National Indonesia (SNI) 7848: 2013

Implementation of REDD+ Demonstration Activity (DA)

ICS 65.020 National Standard Agency (BSN)

[Translators note: Translation from original version to English by IGES and WAHANA, Oct. 10, 2015. The translation is weighed in favor of being literal, rather than interpretive.]

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Foreword

Indonesian National Standard (SNI) for Implementation of REDD+ Demonstration Activity (DA) is a new standard that is used as a guide for the proponent of a learning and/or activity-based (result-based action) REDD+ DA in order to implement climate change mitigation related to land use, land-use change and forestry (Land Use, Land Use Change and Forestry) in Indonesia. This standard can also be used as a guide for governments and other parties to assess the performance of the implementation of a REDD+ DA.

This standard was prepared by a team consisting of regulators, experts from universities and researchers within the Ministry of Forestry, and REDD+ DA practitioners/actors taking into account international decisions reached at COP-13, in particular in the Annex on Indicative Guidance, COP-15, COP-16 and COP-17, voluntary standards, particularly the Verified Carbon Standard (VCS) and Climate, Community and Biodiversity Standard (CCBS), and relevant regulations, and with reference to the Intergovernmental Panel on Climate Change (IPCC) Good Practice Guidance for Land Use, Land Use Change and Forestry, IPCC Guidelines for National Greenhouse Gas Inventories, SNI 7724: 2011, SNI 7725: 2011 and SNI 7645: 2010.

The standard has been discussed at a technical meeting attended by members of Technical Committee 65-01[10] on Forest Management at Hotel Salak, Bogor on August 10, 2012. To solicit input as well as gain wide acceptance of stakeholders, a review was undertaken at the Workshop on the Implementation of the Draft Indonesian National Standard on REDD+ Demonstration Activity (DA) at Hotel Salak, Bogor on July 3, 2012. The standard was agreed through consensus at a meeting on August 28, 2012 in Jakarta. This standard has been through consultation processes from October 18, 2012 through to December 17, 2012, with RASNI as the final result.

[10] This is one of three technical committees established by former Standardization and Environmental Centre under former Ministry of Forestry.

Implementation of REDD+ Demonstration Activity (DA)

1. Scope

This standard establishes guidelines for the organisation of a REDD+ DA as a learning and/or activity-based action (result based action) in order to implement climate change mitigation related to land use, land use change and forestry (Land Use, Land Use Change and Forestry).

2. Normative References

For undated normative references, the latest edition of the referenced normative documents applies.

- IPCC Good Practice Guidance for Land Use, Land Use Change and Forestry
- IPCC Guidelines for National Greenhouse Gas Inventories
- SNI 7645, land cover classification
- SNI 7724, measurement and calculation of carbon stocks – Field measurement for assessment of forest carbon stocks (ground-based forest carbon accounting)
- SNI 7725, Preparation of allometric equations for assessment of forest carbon stocks based on field measurements (ground-based forest carbon accounting)

3. Terms and definitions

For the purposes of this standard, the following terms and definitions are used.

3.1. REDD+ Demonstration Activity (DA)

Field activities aimed at reducing carbon emissions and or increasing carbon stocks and/or conservation of carbon stocks through land use, land use change and forestry-based REDD+ activities as a means of learning, including testing and development of methodology, technology, institutions, and capacity building, and implementation of safeguards and/or result-based action that resulted in the payment and/or incentives for the reduction/prevention of emissions or enhancement of forest carbon stocks.

3.1.1. Forest

Unity of ecosystem in the form of a landscape with natural resources that are dominated by trees in their natural environment, each of which are inseparable.

3.1.2. REDD+

Reducing emission from deforestation and forest degradation, conservation of forest carbon stocks, sustainable management of forest and enhancement of forest carbon stocks (REDD+)

All forest management efforts in the framework of the reduction and/or prevention of emission, and/or protection of forest cover and carbon stocks, and/or increasing the quantity of forest cover and carbon stocks, conducted through a variety of activities to support sustainable national development.

3.1.3. Area of REDD+ DA implementation

REDD+ DA implementation site at sub-national level (provincial, district, and unit management).

3.2. Types of REDD+ DA

A REDD+ DA includes one or more or all types of the following activities: reducing emissions from deforestation, reducing emissions from degradation of forests, sustainable forest management (Sustainable Management of Forest), conservation of forest carbon stocks, and enhancement of forest carbon stocks.

3.2.1. Deforestation

Permanent change of forested areas to non-forested areas caused by human activities.

3.2.2. Forest degradation

A decrease in the quality and quantity of forest cover and forest carbon stocks during a certain period caused by human activities.

3.3. The security framework (safeguards)

Principles, criteria and indicators included in the legal framework and policies nationally as an early effort to ensure that the implementation of REDD+ does not deviate from its original destination. The security framework is applied for the purpose of identifying the risks associated with social, governance and environmental issues.

3.3.1. Behind risk (risk of reversals)

Risk of carbon secured by REDD+ activities in an area/region being lost.

3.3.2. Shifting of emissions (emissions displacement)

Increase in carbon emissions that occur outside the boundaries of the REDD+ DA that can be measured and directly attributed to the implementation of the REDD+ DA.

3.4. Reference emission levels (REL)

The level of carbon emissions that will be used as the baseline (benchmark) to measure the success level in reducing emissions from deforestation and forest degradation (REDD).

3.5. Reference level (RL)

The level of carbon stocks that will be used as the baseline (benchmarks) to measure the success level in conserving and/or increasing carbon stocks from conservation, sustainable forest management, planting or other similar activities.

3.5.1. Historical emissions

The release of greenhouse gases into the atmosphere due to deforestation and forest degradation in an area within a certain period.

3.5.2. Carbon emissions

The release of forest carbon into the atmosphere from forest carbon sources (carbon pools) caused by human activities.

3.5.3. A source of carbon (carbon pool)

A segment or a part of a carbon store.

3.6. Measurement/monitoring reporting verification (MRV)

A system/process to measure/monitor, document/report, and verify changes in forest cover and carbon stocks (result) of the implementation of the REDD+ DA which is accurate (reliable) and accountable.

4. General requirements

In conducting its activities, the REDD+ DA meets the overall requirements as follows:

a) Supports the national REDD+ strategy and policy as well as National Action Plan for (Reducing) Greenhouse Gases;

b) Boundaries of REDD+ DA implementation are clearly determined;

c) The REDD+ DA is implemented in an area that is categorized as forest or forest area to-be;

d) Has a clear and adequate funding or investment plan;

e) The preparation activities of the REDD+ DA (methodology, technology, institutions, and capacity building) are in place;

f) Field activities related to REDD+ are implemented;

g) A mechanism of benefit and risk sharing.

NOTE: The requirements on 4.g) apply to REDD+ DAs with result-based action (involving payment for the reduction/prevention of emissions/carbon stock enhancement and/or carbon trade).

5. Specific requirements

5.1. Administrative Requirements

The proponent must obtain approval to conduct a REDD+ DA from the competent authority, by including obtaining the legal documents, in accordance with the applicable regulations.

NOTE: Legal documents prepared include the determination of the appointment of the DA, draft of the DA, and DA financial documents.

5.2. Technical requirements

5.2.1. Determining the boundaries for REDD+ DA implementation

The boundary delimitation for REDD+ DAs is based on sub-national boundaries.

5.2.2. Determination of the period of activity

The period of implementation of REDD+ DAs for learning is determined with a maximum of 5 years, after which they can be upgraded to REDD+ DAs for result-based action and enhance their regional coverage and activities. The period of implementation of REDD+ DAs for result-based action is at least 20 years.

5.2.3. Determination of the Reference Emission Level (REL)/Reference Level (RL)

a) Expressed in tons of CO_2 per year;

b) A source of carbon (carbon pool) is determined based on five (5) carbon sources – aboveground biomass, belowground biomass, deadwood, litter and soil – by considering their contribution to emission reduction;

c) The estimation of the carbon source by the REDD+ DA proponents is based on the availability of existing data;

d) If the implementation of the REDD+ DA does not yet have existing carbon sources data, the data can be estimated using available reference data;

e) Changes in land cover are assessed using historical data prepared in accordance with SNI 7645;

f) Carbon stocks are calculated according to SNI 7724 and SNI 7725;

g) Emissions from changes in land cover are calculated according to the IPCC Guidelines for National Greenhouse Gas Inventories;

h) Emission projections are determined by considering historical emissions (historical emission) and adjusting for future scenarios;

i) For the national level, future projected emissions are calculated according to the IPCC Guidelines for National Greenhouse Gas Inventories. For the sub-national level, use a methodology that is tailored to the availability of data held by the REDD+ DA regional authority;

j) Periodically updated by considering the development of knowledge, new trends, modification of the scope of REDD+ activities, and methodologies used.

NOTE: For 5.2.3.h) the REDD+ DA proponent should justify the future scenario used.

5.2.4. REDD+ DA implementation

Implementation of the REDD+ DA is through one, several or all of the following types of activities:

a) Reduction of emissions from deforestation, including among others, through activities that avoid the conversion of forest to non-forest;

b) Reducing emissions from forest degradation, through activities such as preventing illegal logging, illegal encroachment, and forest fires;

c) Sustainable forest management, including activities such as Reduced Impact Logging (RIL) in forest harvesting, the implementation of the sustainable forest management system (SPHL), and application of the timber legality verification system (SVLK);

d) Conservation of forest carbon, including activities such as forest protection for conservation;

e) Enhancement of forest carbon stocks, including activities such as forest rehabilitation, enrichment planting in degraded lands, and other planting activities that meet the requirements for 'additionality' and environmental integrity.

5.2.5. The implementation of a security framework (safeguards)

5.2.5.1. The governance security framework (governance safeguards)

a. Consistent with the objectives of national forest programs and related conventions

1) Complies with laws in force at national and sub-national levels as well as with conventions ratified internationally in running its operations;

2) In line with the objectives of national forest programs in the long-term and strategic planning of Indonesia's forestry sector.

b. Forest governance that is transparent and effective

1) Has the institutional setting that supports communication between stakeholders for monitoring the implementation of the principle of good governance;

2) Publishes a commitment not to offer or accept a bribe in monetary or other forms or engage in corruption, and must comply with the anti-corruption law prevailing in Indonesia.

5.2.5.2. The environment security framework (environmental safeguards)

a. Consistent with forest conservation

1) Identify and assess potential impacts of activities on biodiversity, society and environment. Assessment should be appropriate to the scale and intensity of activities in order to determine the necessary conservation measures;

2) Assess the impact on biodiversity and the environment. Develop strategies for the management of biodiversity and measures for environmental conservation (preservation, protection, and utilization).

b. Prevent the risk of turning (risk of reversals)

1) Identify exploitative activities that may increase the risk of reversals and the preventive measures against them;

2) Implement internal controls for environmental management and reflect the monitoring results in the implementation of REDD+ activities.

c. Actions to reduce the shifting of emissions (emissions displacement)

1) Set a reference level for forest-related carbon emissions/sequestration in the region that is under jurisdiction/control;

2) Identify types of activities in the area that shift as a result of the DA;

3) Calculate the potential displacement of emissions that will occur as a result of this activity shifting;

4) Have a strategy and a program of activities to control emissions displacement in areas that are under the control of the DA implementer.

NOTE 1: Emissions displacement can be calculated from the activities that generate net emission reductions.

NOTE 2: If the DA is part of the REDD + program within a broader jurisdiction, then the estimation of potential emissions displacement is not necessary because it will enter the MRV system for the REDD+ program of the broader jurisdiction.

5.2.5.3. Framework for social security (social safeguards)

a. Respecting the rights of indigenous peoples (*masyarakat adat*) and local communities

1) Identify the rights of indigenous and local communities, such as ownership, access and utilisation of forest resources and ecosystem services that exist;

2) Implementing the principle of early notification to obtain information on prior and informed consent (PADIATAPA or Free, Prior, Informed, Consent);

3) Contribute to maintaining or improving the social welfare of indigenous peoples and the local economy, with benefits shared equitably (proportional);

4) Have a procedure or mechanism for resolving complaints and disputes;

5) Recognize traditional knowledge and provide compensation for the commercial use of traditional knowledge.

b. Full participation of stakeholders

1) Involve relevant stakeholders in the overall planning process. The process is approved/recognized by stakeholders;

2) Have procedures to resolve complaints and disputes.

5.2.6. Calculation and monitoring of emissions reduction/prevention/carbon stocks enhancement

Emission reduction, emissions prevention and forest carbon stock enhancement are estimated and monitored using the same carbon sources that were used for the determination of the REL/RL.

Types of activities performed and methodology used when determining the REL/RL must be consistent for the same period.

Quantification and monitoring of carbon emissions reductions include:

a) Calculating changes in land cover following IPCC *Guidelines for National Greenhouse Gas Inventories* and SNI 7645;

b) The calculation of carbon stock changes following SNI 7724 and SNI 7725;

c) Calculation of emissions and carbon sequestration following IPCC *Guidelines for National Greenhouse Gas Inventories*;

d) Calculation of net emissions (net) following IPCC *Guidelines for National Greenhouse Gas Inventorie*s;

e) In addition to the carbon accounting, the calculation and monitoring of benefits generated from the implementation of the REDD+ DA.

NOTE: Benefits other than climate include among others benefits in the form of environmental services, water services, tourism, and protection of biodiversity.

5.2.7. Reporting

Reporting of the REDD+ DA implementation, especially those related to the measurement of carbon emissions and sequestration, changes in carbon stocks, as well as efforts to improve the social and environmental safeguards, are carried out periodically in accordance with applicable provisions.

Reports from each DA become inputs for internal verification and inputs for the national report to the Secretariat of the Convention on Climate Change (United Nations Framework Convention on Climate Change/UNFCCC).

Reporting covers several subjects:

a) Means/methods and results of REL/RL estimation;

b) Ways/methods and results of the calculation and monitoring of emissions reductions/prevention of emissions/carbon stock enhancement;

c) The results of the implementation of a security framework (safeguards);

d) The results of the calculation and monitoring of benefits other than carbon;

e) The results of capacity building activities;

f) The learning outcomes of REDD+ activities.

5.2.8. Verification

Verification is conducted internally and externally.

Internal verification is carried out by the agency which has the authority for the handling of climate change on forestry (sector).

External verification of the results of the REDD+ DA as a result-based action by competent independent institutions.

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