Indonesia REDD+ Readiness – State of Play

November 2012

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The aim of the IGES Forest Conservation Team is, through strategic research, capacity building and outreach, to contribute to the development of policies and instruments for the sustainable management and use of forest resources. IGES discussion papers are prepared for timely delivery to facilitate substantive discussion among policy makers and research communities.

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Foreword

With the understanding that deforestation contributes to about 20 per cent of global anthropogenic greenhouse gas emissions, parties to the United Nations Convention on Climate Change (UNFCCC) have been attempting to reach an agreement on how developing countries can be supported and rewarded for protecting and enhancing the carbon stocks in their standing forests – a concept known as REDD+. For international negotiators, to reach an agreement on a global REDD+ mechanism presents but one challenge; one that is proving a slow and difficult process. Countries preparing to participate in REDD+ are faced with many others. Where deforestation rates have been persistently high over many years and where forest management policies have been largely ineffective at the national scale, reforming structures, regulatory controls and incentive systems to protect carbon stocks, including in a manner that is socially acceptable (i.e. acceptable to all major stakeholders), will not be easy. The global REDD+ mechanism will also require participating countries to project future forest carbon stock changes under a business-as-usual scenario, to monitor and report actual carbon stock changes, and to attribute these changes to drivers. As developing countries mostly have incomplete and inconsistent datasets, and as some have never conducted a proper forest inventory, this represents another set of difficult challenges.

The Institute for Global Environmental Strategies (IGES) is monitoring the development of national REDD+ systems in selected key REDD+ countries in the Asia-Pacific region. This work is generally based upon outputs produced through a REDD+ related project funded by Japan's Ministry of Environment.

This report presents the results of a study on 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 author for succeeding in bringing together this report, which I anticipate will be useful to people working on REDD+ issues from local to international levels.

Hideyuki Mori

IGES President

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Any omissions and errors are entirely the responsibility of the author.

Acronyms and Abbreviations

ADB	Asia Development Bank
AFD	Agence Français du Développement
ACIAR	Australian Centre for International Agricultural Research
ALLREDDI	Accountability and Local Level Initiative for REDD in Indonesia
ASEAN	Association of Southeast Asian Nations
AusAID	Australian Agency for International Development
BAPPENAS	State Ministry of National Development Planning
BOS	Borneo Orangutan Survival Foundation
CBNRM	Community-based natural resource management
CI	Conservation International
CIRAD	Centre de Coopération Internationale en Recherce Agronomique pour le Dévelopment (Centre for Agricultural Research for Development)
COP	Conference of the Parties
DFID	Department for International Development
EIA	Environment Investigation Agency
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FCPF	Forest Carbon Partnership Facility
FFI	Fauna and Flora International
FIP	Forest Investment Programme
FLEGT-VPA	Forest Law Enforcement, Governance and Trade – Voluntary Partnership Agreement
FMU	Forest Management Unit
FORCLIME	Forests and Climate Change Programme
FORDA	Forestry Research and Development Agency
FPIC	Free Prior and Informed Consent
FRIS	Forest Resource Information System
GEF	Global Environmental Facility
GER	Global Eco Rescue (Switzerland)
GHGs	Greenhouse Gases
GTZ/GIZ	German Development Agency (Deutsche Gesellschaft für Internationale Zusammenarbeit)
ICCTF	Indonesian Climate Change Trust Fund
ICRAF	World Agroforestry Centre

IFC	International Finance Corporation
IFCA	Indonesian Forest Climate Alliance
IFCI	International Forest Carbon Initiative (Australia)
INCAS	Indonesian Carbon Accounting System
IPCC	Intergovernmental Panel on Climate Change
ISS-REDD	Information System for Safeguards
ITTO	International Timber Trade Organization
JICA	Japan International Cooperation Agency
KFW	German Bank for Reconstruction (Kreditanstalt für Wiederaufbau)
LAPAN	Indonesia's National Space Agency
LCC	Land Cover Change
LOI	Letter of Intent (Indonesia-Norway)
LUCF	Land use Change and Forestry
MIM	Moratorium Indicative Map
MoF	Ministry of Forestry
MRV	Monitoring, Reporting and Verification
NFI	National Forest Inventory
PES	Payments for environmental services
REDD+	Reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks
REL	Reference Emission Level
SFM	Sustainable forest management
SNC	Second National Communication
TNC	The Nature Conservancy
UKP4	President's Delivery Unit for Monitoring, Development and Oversight (Ketua Unit Kerja Presiden bidang Pengawasan dan Pengendalian Pembangunan)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations REDD Programme
USAID	US Agency for International Development
WB	World Bank
WI	Wetlands International
WWF	World Wide Fund for Nature
ZSL	Zoological Society of London

Executive Summary

- Indonesia has the third largest expanse of tropical forest in the world. More than 60% of its annual CO_2 emissions originate from deforestation and forest degradation, including peat lands, which makes REDD+ highly relevant to Indonesia's policy agenda to mitigate and adapt to climate change.
- Indonesia has made a voluntary commitment to reduce emissions by 26% relative to the year 2000 (and 41% with international assistance) by 2020. There is evidence of strong government commitment to REDD+ (in terms of readiness activities and official statements), but significant changes in forest and land management practices are yet to be seen.
- Over 90% of forests are controlled by the state, which has assigned concessionaires rights to around 57% of the state forests, while retaining control over 42%. Rights to the rest are assigned to individuals and communities.
- Communities are important for REDD+ readiness and implementation. For readiness, awareness raising and capacity building of local communities is critical, and for both readiness and implementation, their participation will strengthen governance.
- The government presents its existing forest policy as convergent with REDD+ objectives. The policy focuses on eight areas: 1- consolidation of forest lands, 2- forest rehabilitation and improvement of watershed capacity, 3- control of forest fires, 4- biodiversity conservation, 5- revitalization of forest industries and forest utilization, 6- empowerment of communities around forests, 7- mitigation and adaptation to climate change in the forest sector, and 8- strengthening of forest institutions.
- Indonesia took early steps towards developing a REDD+ National Strategy in the lead up to the 13th Conference of the Parties (COP) to the UNFCCC, which it hosted in Bali. That process continues today with strong support from bilateral and multi-lateral donors. Donors are providing financial and technical assistance for the development of strategic policy approaches, monitoring, reporting and verification (MRV), as well as the development and implementation of REDD+ demonstration and pilot projects, of which there are more than 50 in the country.
- The final draft of the REDD+ National Strategy was released in June 2012 by the Indonesian REDD+ Task Force. The development of the REDD+ National Strategy was originally entrusted to the Ministry of Forestry, then later to BAPPENAS, which was also tasked with REDD+ coordination, but after the government signed a Letter of Intent with the government of Norway, these roles were handed on to the delivery office of the president (UKP4).

- The REDD+ National Strategy proposes the creation of a national REDD+ Agency with ministerial status. Questions arise about the creation of this new agency since its tasks concerning the steering of REDD+ policies and coordination are already part of the tasks entrusted to the Ministry of Forestry and BAPPENAS.

- Under the Letter of Intent that Indonesia signed with Norway in 2010, Indonesia has implemented a two-year moratorium on the issuance of new licenses for forest concessions on primary forests and peat lands. The moratorium has weaknesses, such as lack of legal implementation mechanisms and loopholes that may allow for the further issuance of licenses.

- A Moratorium Indicative Map (MIM) has been produced with the inputs of agencies that previously had difficulties in agreeing on a synchronized map. These agencies include the Ministry of Forestry, the Ministry of Agriculture, the National Land Agency and the National Survey and Mapping Agency. It is expected that further versions of the MIM will include inputs from the Ministry of Energy and Mineral Resources. The map has introduced an element of transparency in the process of land use planning by providing public access to forest and land use data through the online publication of the MIM.

- For its MRV system, the country is developing the Indonesia National Accounting System (INCAS), which combines data from remote sensing and ground based measurement. A Forest Resource Information System (FRIS) is also being developed to improve forest management at the national level, and to collect data for the INCAS. To ensure the quality in the measurement of carbon stocks, FORDA recently published national guidelines on the development of allometric equations.

- The government is collaborating with the World Bank (WB) and the Forest Investment Programme (FIP) to develop safeguards. It is expected that the Ministry of Forestry will produce a REDD+ Safeguards Information System (ISS-REDD). However, concerns have been expressed about the different interpretations that different donors and the government have of the right to “free prior and informed consent”.

- Social safeguards seem to be high in the agenda of the REDD+ National Strategy. The emphasis on consultation and inclusion of communities and indigenous peoples is a positive sign, considering that these processes have been traditionally weak in Indonesia. Nevertheless, the statements in government documents are in contrast to the worries expressed by several grassroots organizations about the lack of recognition of the rights of indigenous communities, and raises the question of how the government expects to achieve international recognition of its social safeguards (particularly at the level of the United Nations Declaration on the Rights of Indigenous Peoples, UNDRIP) without properly addressing the rights of indigenous peoples at home.

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1. Introduction

Indonesia is among the largest carbon dioxide (CO_2) emitters in the world, but unlike other major polluters such as the USA, China, India, Japan or the Russian Federation – where the bulk of emissions are from the combustion of fossil fuels – over 78% of its CO_2 emissions originate from land use and land use change and forestry (LULUCF) and peat lands (PEACE 2007; NCCC 2010). Indonesia has thus given high priority to reducing emissions from deforestation, forest degradation, and the conservation and enhancement of forest carbon stocks (REDD+) in its climate change mitigation strategy.

After the Bali Action Plan (UNFCCC 2008: Decision 1/CP.13), Indonesia pledged ambitious CO_2 emissions reduction targets. In 2009, President Yudhoyono announced the intention of the Indonesian government of reducing the country's greenhouse gas (GHG) emissions by 26% by 2020, with its own resources, and by 41% with international assistance. This high level political commitment, and the country's efforts towards developing a national REDD+ system, have won Indonesia a position of leadership on REDD+ among developing nations. Nevertheless, REDD+ constitutes a huge undertaking for Indonesia. Besides meeting the technical challenges associated with establishing reference emission levels (RELs) and a system to monitor, report and verify emissions (MRV), policy and institutional reforms are required to ensure that a coordinated approach to land use is in place as well as improvement of forest governance. In Indonesia, policy and institutional reform and strengthening of forest governance are essential to the delivery of real, long-term national emissions reductions. For decades, policy making in the forest sector has been influenced by vested interests and conflicting policy goals, and institutions weakened by corruption, resulting in weak law enforcement. These issues have hindered numerous efforts to improve management and curb the loss of forest resources in Indonesia.

REDD+ has created renewed momentum in Indonesia to address deforestation and forest degradation. The government is aware of the challenges and that policy making, the rule of law and governance all require attention. This awareness is reflected in several documents laying out Indonesia's forest policy and/or elaborating the country's REDD+ strategy that point to the need for a coordinated policy approach, strengthened institutions and improved accountability.

This report provides a review of Indonesia's REDD+ readiness processes as of November 2012. It follows up on the IGES report compiled by Scheyvens and Setyarso (2010) and is part of a regional study on national REDD+ readiness funded by Japan's Ministry of Environment that aims to share information and lessons from readiness processes. The data for this report were obtained from a literature review as well as from interviews with REDD+ stakeholders in Indonesia, including governmental bodies, non-governmental organisations (NGOs), and donors.

Section 2 of the report provides a brief description of Indonesia's forest resources and how they are classified under Indonesian law. The allocation of use rights, the rate of forest change and the direct and underlying drivers of deforestation are briefly discussed. The section shows that inter-sectoral policy coordination is essential to effective forest policy.

Section 3 discusses the objectives of Indonesia's forest policy and its priority areas, including restructuring of forest-based industries, combatting illegal logging, decentralization of forest management, forest fires, reforestation and forest plantation development. Section 4 considers the commitment to REDD+ in Indonesia, from high level policy initiatives since the 13th Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Bali in 2007, to the moratorium on the award of new concessions for the conversion of peat lands and natural forests. The section notes that the moratorium is weakened by a lack of legal instruments to enforce its implementation and by the definition of natural forest used. Positive outcomes, on the other hand, include better collaboration between government agencies and better public access to data on the areas under the moratorium.

Section 5 looks at the organizational framework that is being proposed for REDD+ and discusses the similarities between the tasks envisaged for a proposed new REDD+ agency – with ministerial rank – and those taken on by the Ministry of Forestry and BAPPENAS. Section 6 reviews the technical and financial assistance that Indonesia is receiving for REDD+ readiness and implementation. The section shows that many of the initiatives target not only the development of strategies and policies at the national level, but also at the sub-national level.

Section 7 discusses the REDD+ National Strategy, the process through which it has been developed since the early studies undertaken prior to the 13th COP, and the governmental organizations that have led the process. It also considers the elements of the strategy, including the organizational and regulatory framework as well the proposed actions to strengthen governance.

Section 8 describes the systems being put in place to monitor forest resources and carbon stocks, namely the Forest Resource Information System (FRIS), the Indonesian National Carbon Accounting System (INCAS), and the standards for ground-based estimation of forest carbon stocks (with IPCC Tier 3 values) and for the development of allometric equations to support ground-based forest carbon accounting. Section 9 discusses the development of reference emission levels (RELs). It describes the ongoing work of the Ministry of Forestry (MoF) to establish RELs based on data gathered from remote sensing and permanent sample plots used in the national forest inventory.

Section 10 discusses the plans of the government to establish criteria and indicators for REDD+ safeguards to protect vulnerable groups, and the demands of grassroots organizations for an inclusive process. Section 11 provides an overview of documented demonstration activities and projects targeting the voluntary market. Conclusions are elaborated in section 12.

2. Forest Resources

2.1. Extent of forest cover

Indonesia has a total forest area of approximately 94.4 million hectares, equivalent to approximately 52 per cent of its territory (FAO 2010b: 225).[1] Indonesia's forest estate accounts for approximately 71 per cent of the total land area (Table 1). Of this estate, approximately one third consists of primary forests, one third of logged-over areas, and the remaining third of vegetation other than forests (Verchot et al. 2010).

Table 1: Indonesia: Forest and non-forestland

Total land area (millions of ha)	185.7	100%
Forestland	132.4	71%
• With forest cover	90.1	49%
• No forest cover	39.3	21%
Non-forestland	55.4	30%

Source: Verchot et al. (2010)

The MoF designates forest areas by means of the "Ministerial Decree for Provincial Forest Area and Inland Water, Coastal and Marine Ecosystem." Forest areas are assigned by the MoF through a consensus process based on provincial spatial planning.[2] Based on maps and land use plans, the process of consensus in the establishment of forest areas is meant to deal with inter-agency conflicts over the use of land under the mandate of the MoF (MoF 2009a).

Proper land use planning is essential for REDD+, not only for reducing emissions or enhancing forest carbon stocks, but also for establishing reliable RELs and for credible monitoring, reporting and verification of carbon stocks. However, achieving a consensus on land use has proved difficult. As a result of the decentralization process, provincial and district governments are entrusted with the task of preparing land use plans. Achieving a land use plan that is congruent with the objectives of REDD+ can be challenging for provinces and districts with weak governance structures, lacking human, material and financial resources, and where vested interests have strong influence in policy making (Resosudarmo et al. 2012). Examples of how difficult this task has become for provincial governments can be observed in Sumatra and Kalimantan, where as of May 2012, only 13 out of 33 provinces had their provincial spatial plans approved by the MoF. Provinces where forests are under threat, such as Riau, Aceh, all the provinces in Kalimantan, Papua and West Papua have not completed their provincial spatial planning, particularly regarding forest lands.[3] Synchronization of forest land use by consensus and provincial spatial plans remains a slow process.

The difficulties for achieving a synchronized use of forest lands arises because of, *inter alia*, overlapping land uses among forest concession areas and between concessions and forest protection and forest conservation areas; conflicts with community rights claims; overlapping forest areas with towns, districts and sub-districts; and land use conflicts with other sectors (e.g. agriculture and mining) (Santoso 2003). A substantial ele-

ment of this problem is the fact that a single synchronized map (on which different agencies and stakeholders agree) does not exist and partly because consultation processes have been traditionally poor. Therefore, different maps using varying scales are used by different government agencies and stakeholders (Caldecott et al. 2011; Ardiansyah and Barano 2012; Resosudarmo 2012). The lack of proper demarcation of forest areas,[4] uncertain and disputed property rights, and competing land uses make the process of land use planning a challenging exercise.

Currently, Indonesia's REDD+ Task Force is coordinating efforts to produce a single map (Moratorium Indicative Map, MIM) that allows a congruent process of land use planning. The agencies participating in this process include the Ministry of Forestry, the Ministry of Agriculture, the National Land Agency (BPN) and the National Survey and Mapping Agency. It is expected that the Ministry of Energy and Mineral Resources will provide inputs to revised versions of the MIM.[5]

2.2 Forest types

Under Indonesia's Forest Law (MoF 1999) forests are classified by the MoF according to their functions: conservation, protection and production. The MoF (FAO/MoF 2009: 9-10) describes the classification of forests as follows:[6]

Conservation forests (11%): are earmarked to conserve biodiversity and its associated ecosystems.

Protection forests (16%): are intended to protect earth systems fundamental to life, such as hydrological systems, erosion control, maintain soil fertility, and prevent seawater encroachment.

Production forests (33%): are allocated for commercial logging. Production forests are further classified as permanent production forests, limited production forests and convertible production forests.

Conversion forests (12%): are forests that can be converted into other land uses such as agriculture and plantations.

In addition to natural forests, the private sector and state forestry enterprises (perum perhutani) have established approximately 2.5 million hectares of forest plantations with the main purpose of supplying raw materials for pulp and construction.[7] Additionally, state forestry enterprises manage approximately 1.9 million hectares of teak plantations.

Table 2: Forestland tenure in Indonesia

	2002	2008	2010
Total forestland (millions of ha)	109.96	137.1	134.27
Administered by government	98.4%	97.9%	97.7%
Designated to communities and indigenous groups	0.2%	0.2%	0.3%
Owned by communities and indigenous groups	0.0%	0.0%	0.0%
Owned by individuals and firms	1.4%	2.0%	2.0%

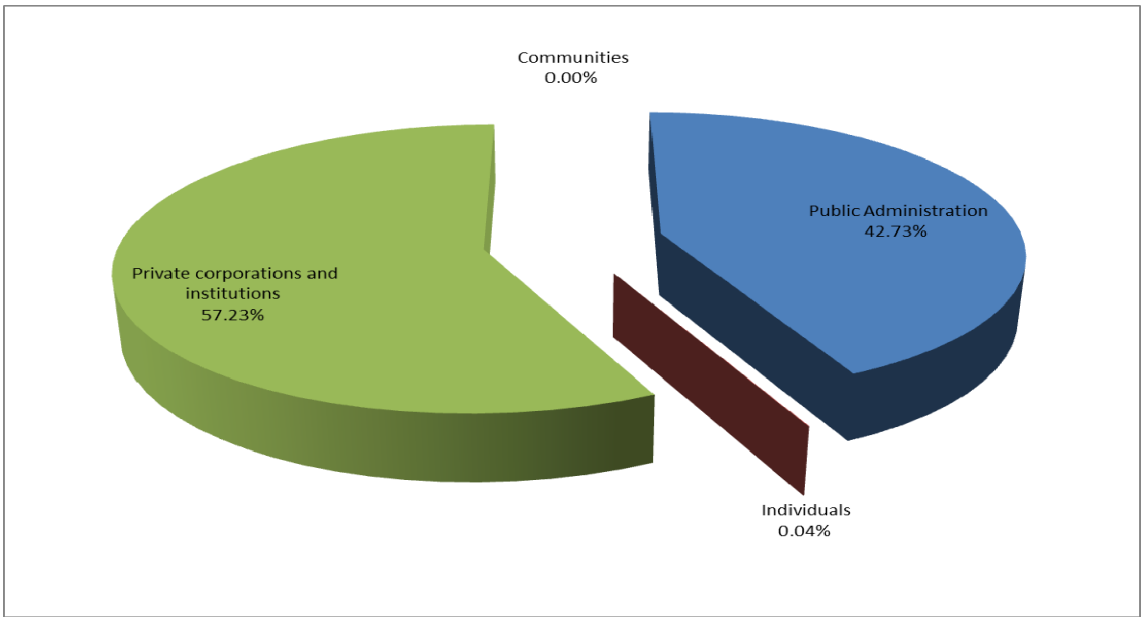
Source: Adapted from Dahal et al. (2011)

2.3 Ownership

According to the Forest Law (1999: Article 4), "All forests within the territory of the Republic of Indonesia including all the richness contained therein are under the state's control." On this basis, the Indonesian state owns all forestlands not gazetted as private land. Table 2 provides a summary of forest tenure in Indonesia.

The state assigns use rights to third parties on the lands it owns. Traditionally, the allocation of forestlands has been strongly influenced by vested interests – from within and outside the forest sector – with close ties to political circles, consistently making private actors the main beneficiaries of state forestlands (Barr et al. 2006a; Brockhaus et al. 2012) (Figure 1).

Figure 1: Use rights distribution of state forests



Source: FAO (2010a)

Only a small proportion of state forestlands has been allocated to communities, partly because the government reserves itself the right to recognize the right of a (customary) community to own a forestland. Throughout Indonesia, customary (*adat*) communities have persistently claimed ownership of state forestlands, often leading to violent conflicts (McCarthy 2000; Campbell 2002; Adi et al. 2004).

Since the fall of the Suharto regime, the government has assigned land/forest use rights to communities through a number of social forestry or community forestry programmes. There are several types of social forestry programs packaged under government regulations, namely (i) village forest (Hutan Desa, HD), (ii) community forest within state forest (Hutan Kemasyarakatan, HKm), (iii) community forest in partnership with commercial company (Hutan Rakyat Kemitraan, HRK), and community forest plantation (Hutan Tanaman Rakyat (HTR). These programmes have seldom performed satisfactorily because communities have either obtained only small benefits, or be-

cause the programmes have pursued a business approach to forest management incompatible with traditional forms of local organization (Campbell 2002; Safitri (2006). Recently, bottom-up initiatives towards the recognition of indigenous people's rights to land can be observed. The Alliance of Indigenous People of the Archipelago (AMAN) has been leading an effort to map and register customary lands through the Ancestral Domain Registration Agency (BRWA),[8] and the information is being shared with the UKP4/ REDD+ Task Force with the expectation that they will be encompassed in Indonesia's efforts to produce a single map that allows a concerted process of land use planning.[9]

2.4 Rates of forest cover change

Global Forest Watch estimates that by 2000 Indonesia had lost approximately 40% of the forest area it had in 1950.[10] Between 1990 and 2000, the average annual deforestation rate in Indonesia was estimated at around 1.75 per cent, a loss of roughly 1.9 million hectares. This deforestation rate sank substantially between 2000-2005 to 0.31 per cent (310,000 ha per year) and started increasing again between 2005-2010 up to 0.71 per cent, equivalent to 685,000 ha (FAO 2010b).[11] This last figure contrasts with the deforestation rate reported in Indonesia's Second National Communication (SNC) to the UNFCCC, which is 1.1 million ha.

The reasons behind the reduction of the average annual deforestation rate appear to be manifold: for example, between 1997 and 1998 large forest fires occurred as a result of drought; the MoF issued a letter declaring a moratorium on forest conversion; a policy on soft landing that reduced the quota on round wood production in natural forests in 2002 (FAO 2010a), as well as a moratorium on the export of round wood. Nonetheless, it is argued that these measures also fuelled illegal logging.[12] This period also corresponds with the beginning of the process of decentralization, in which district governments allocated many timber extraction and forest conversion permits (Barr et al. 2006b). The SNC states that the rate of deforestation is expected to increase in the future in open access areas (i.e. areas not granted to concessionaires and that have no on-site agencies managing them).

The MoF (FAO/MoF 2009) developed four scenarios to predict the condition of for-

Table 3: Forestry condition in varying economic and policy scenarios

Slow economic growth → Fast economic growth	S2. Unsustainable growth: Forest rehabilitation unlikely. Development of privately owned plantations possible but some government support needed. Little chance of development of community plantations, although economic development may help resolve land disputes	S4. Sustainable development: Forest rehabilitation and plantation development proceed on the basis of effective policy implementation and sufficient investment
	S1. Socio-economic development stalls: Forest rehabilitation unlikely. Plantation development unlikely	S3. Low-growth development: Forest rehabilitation still possible but only with policy measures based on allocation of land rights rather than economic incentives
	Poor policy implementation →	Effective policy implementation

est resources between 2006-2020 depending on the effectiveness of policy implementation (robustness of governance) in the forest sector, and the economic development of the country. These scenarios are illustrated in Table 3.

The results of the MoF modelling exercise suggest that only in an environment of effective policy implementation (i.e. effective law enforcement, decentralization, accountability, transparency in decision making, conflict resolution and reduction of inequity) will it be possible to achieve multiple climate change mitigation and adaptation-related objectives, such as poverty reduction and improved rural livelihoods, while securing environmental services (i.e. carbon sequestration and stock enhancement, among others). In scenarios dominated by poor policy implementation, it is expected that illegal logging and unplanned land use change will thrive.

Table 4: Estimated change in forest area, 2006-2020

	Current state (million ha)	Accumulated change (million ha, 2006-2020)				Average annual change (million ha, 2006-2020)			
	2006	S1	S2	S3	S4	S1	S2	S3	S4
Production forest	36.3	27.0	28.8	39.8	39.5	-0.66	-0.54	0.25	0.23
Protection forest	21.5	17.7	18.7	23.8	23.8	-0.27	-0.20	0.16	0.16
Conservation forest	14.0	10.0	10.9	15.6	15.6	-0.29	-0.22	0.11	0.11
Total	71.8	54.7	58.4	79.2	78.9	-1.22	-0.96	0.53	0.51

Source: Adapted from FAO/MOFR (2009)

The estimated annual deforestation rate in scenarios S1 and S2 (Table 4) are similar to the deforestation rates given by the SNC (see MoE 2010: I-10). If the assumptions of the MoF model for the forestry sector are added to the deforestation estimates given in the SNC (1.1 million ha yr^{-1}), then Indonesia can be considered on a path of unsustainable growth (fast economic growth, poor policy implementation).[13] If the figures provided by the FAO (FAO 2010b: 230) are considered (685,000 ha yr^{-1}), the country would be somewhere between scenarios S2 (unsustainable growth) and S3 (low growth development). Each case (except S4) depicts challenging circumstances for the implementation of REDD+.

2.5 Direct and indirect drivers of deforestation and forest degradation

- Direct drivers of deforestation

According to the SNC (MoE 2010: I-10), most of the deforestation in Indonesia takes place in production forests (53%), followed by non-forest areas (24%), convertible production forests (19%), conservation forests (3%) and protection forests (1%). Amongst the direct causes of deforestation and forest degradation, logging, the establishment of forest plantations, and agriculture are the most salient (Sunderlin and Resosudarmo 1996; Casson 2002; FAO/MoF 2009; MoE 2010; Indrarto et al. 2012).

Research shows that one of the main driving forces of deforestation in Indonesia is excess installed capacity in the wood pro-

cessing sector (sawnwood, plywood, pulp) leading to unplanned/uncontrolled logging (Barr et al. 2006a; WB 2006; FAO/ MoF 2009). Between 2000 and 2010, the annual deforestation rate was estimated at around 2.7% in Sumatra and 1.3% in Kalimantan, where part of the reason for these regional differences are variations in installed capacities (Indrarto et al. 2012).

The establishment of forest plantations is another major driver of deforestation. According to the MoF, unproductive forestlands are mainly targeted for the establishment of forest plantations, but natural forests have been extensively felled for their establishment because, *inter alia*, forest plantations have been heavily subsidized by the government, natural forests are instant sources of wood fibre, and because they can be easily accessed with the help of local cooperatives and/or existing concessionaires (Sunderlin and Resosudarmo 1996; Cossalter and Pye-Smith 2003; Pirard and Cossalter 2006; Kanninen et al. 2007).[14]

In the case of agriculture, the establishment of oil palm plantations has received wide attention because of their encroachment in peat lands. Until 2006, Indonesia's total peat land area was estimated to be around 12 million hectares (BAPPENAS 2009). Between 1987 and 2000, 3 million hectares of peat swamp forest were converted or destroyed mostly for the establishment of oil palm, especially in Sumatra and Kalimantan (MoF 2008a: 35; Hooijer et al. 2010). The area of oil palm plantations is estimated to be around 9.4 million hectares, and continues to expand at a rate of approximately 600,000 hectares per year (Colchester and Chao 2011). According to Indonesia's Palm Oil Advocacy Team and Indonesia's Palm Oil Board, there is potential for further establishment of oil palm plantations on additional 22.9 million ha (TAMSI-DMSI 2010). In spite of the aggressive expansion of oil palm plantations, there is strong suspicion that concessionaires use oil palm allocation schemes to access timber without having to prepare forest management plans, since approximately 12 million hectares of land that have been allocated for oil palm have been cleared, but have not been planted (Colchester and Chao 2011).

- Indirect drivers of deforestation

Indirect drivers of deforestation include weak policy implementation, conflicting extra-sectoral policies, unclear property rights and lack of recognition of customary rights, poor governance and weak law enforcement (Campbell 2002; MoF 2008a; Indrarto et al. 2012).

Weak policy implementation allows over harvesting as well as the encroachment of agriculture and plantations in natural forests. Additionally, unclear forest area status and boundaries also allow for over harvesting and land use change (Indrarto et al. 2012). Unclear property rights and lack of recognition of communities' rights produce conflicts between actors over the use of forests, and has led to the systematic exclusion of communities from accessing and benefiting from forest resources (Campbell 2002). Low accountability and transparency in decision making processes as well as weak law implementation have led to widespread environmental degradation and to the marginalization of local actors through improper allocation of forest rights (Moeliono and Dermawan 2006).

Weak law enforcement weakens the effectiveness and efficiency of the institu-

tions ruling forests. It hampers institutional mechanisms such as monitoring of actors' behaviour and the triggering of reward and sanction mechanisms. The lack of functioning sanction mechanisms reduces institutional credibility and consistently makes the payoffs of not complying with the law higher than those of complying with the law (Elster 1989a: 139; 1989b: 164; Ostrom 1990: 43-44; Knight 1992: 135). Corruption and collusion are also significant characteristics of poor governance and poor law enforcement, as they contribute to create an environment of impunity for actors that do not abide by the rules.

The national REDD+ National Strategy (GoI 2012) recognizes the need to tackle both the direct and underlying causes of deforestation and makes a commitment to strengthen processes of management of forests and peat lands, land use and spatial planning, land tenure and governance. The strategies to tackle these drivers are discussed below.

3. Forest Policy

The objectives of Indonesia's forest policy are to guarantee the production functions of forestlands as well as the protection of forest resources, to guarantee their environmental services, and to promote social participation in the use and benefits from forests (Chrystanto and Justianto 2003). Indonesia's forest policy comprises eight priority areas: 1- consolidation of forest lands, 2- forest rehabilitation and improvement of watershed capacity, 3- security and combating forest fires, 4- biodiversity conservation, 5- revitalization of forest use and forest industries, 6- empowerment of communities around forests, 7- mitigation and adaptation to climate change, and 8- strengthening of forest institutions.[15]

- Consolidation of forest lands

To consolidate forest lands the government is giving priority to securing the integrity of forest areas though the mapping of forest land boundaries as well as stakeholder engagement.[16] Mapping of forest lands boundaries is a necessary measure to advance land use planning. Pursuing the engagement of local stakeholders is a relevant measure for the consolidation of forest areas since local stakeholders can be effective stewards of forests. The engagement of local stakeholders is a key issue considering that the release of laws and regulations aiming to consolidate the state power over forest lands has traditionally contributed to the alienation of local (adat) communities (Contreras-Hermosilla and Fay 2006).

- Forest rehabilitation and improvement of watershed capacity

The rehabilitation of forests aims at restoring degraded forests not only to enhance their production capacity, but also to harness the production of environmental services, particularly watershed services. Indonesia has undertaken efforts to develop timber plantations to rehabilitate forestlands, but the establishment of timber plantations has also taken place at the expense of natural forests. The main limitations for the expansion of industrial timber plantations on degraded or barren land are the lack of adequate long-term plans, poor selection of sites and species as well as low seed and seedling quality, poor management practices and scant research support (Chrystanto and Justianto 2003).

- Security and combating forest fires

Illegal logging and forest fires undermine efforts towards the sustainable use of forests as well as Indonesia's goal of reducing emissions from deforestation and forest degradation. Indonesia recognizes that poor forest governance is at the heart of illegal logging. Poor governance also hampers dealing with reducing and controlling forest fires, for which the country officially follows a 'zero burning' policy. Nevertheless, changing practices of using fire to clear the land is difficult in areas where this practice is customary – for example in Kalimantan – and where enterprises take advantage of weak law enforcement (Colfer 2002). Although In-

donesia is working toward strategies of fire prevention and early warning systems instead of suppression practices, it has been reluctant to ratify the ASEAN Agreement on Trans-boundary Haze Pollution.[17] Vested interests of the logging industry, or government concerns over a loss of sovereignty may be behind Indonesia's reluctance to sign the agreement (Hudiono 2003).

- Revitalization of forest use and forest industries and institutional strengthening of forestry

Central to Indonesia's efforts towards institutional strengthening, and revitalizing forest use and forest industries is strengthening and expanding Forest Management Units (FMUs) across the country. The development of forest management plans at the FMU level is considered essential for the achievement of sustainable forest management and the fulfilment of management targets at the district, province and national level. It is expected that the objectives of FMUs will be harmonized with those of the central, provincial and district governments, and the preparation of long-term plans is anticipated to include the needs of all the parties within an FMU (e.g. government agencies, communities, permit holders) (MoF 2011). Traditionally, local actors have been disadvantaged against vested interests in the contest over access to forest resources. The FMU concept aims to engage local actors in forest management and achieve a fair distribution of benefits, which requires forest governance and institutions to be significantly improved. The REDD+ National Strategy recognises these facts to the point of requiring "changes in work paradigms and culture" and following the principles of free prior informed consent (GoI 2012). Approximately 700 FMUs will have to be established across Indonesia, but the government can only afford the establishment of roughly 200 over the next 15 years. For this reason, the government is prioritizing their establishment in regions with high risk of deforestation (MoE 2010).

The revitalization of forest industries – and restructuring of forest-based industries – is recognized to be a complex undertaking due to the excess installed capacity in the forest sector. Even though the government has made attempts to reduce the gap between the supply and demand for timber (for example by reducing the size of concessions and even by closing down some of them), further efforts are required, particularly on the demand side. According to the World Bank (2006), the annual industrial demand for round wood is about 60 million cubic metres, whereas the sustainable timber yield from natural forests lies between 8-9 million cubic metres, and from timber plantations between 3-4 million cubic metres. The gap between supply and demand drives the loss and degradation of natural forests and fuels illegal logging (Indrarto et al. 2012).

An important element of institutional strengthening in the forest sector is the decentralization process. The decentralization process foresees institutional restructuring and significant changes in forest policy and planning to bridge the management of forest resources from a centralized to a decentralized system. This is proving to be a challenging process. Tensions often arise between the central government, the provinces and the districts over the control of forest

resources and competing land uses, showing not only that the legal framework is often interpreted differently by central and regional governments, but also the existence of overlapping mandates (Siswanto and Wardojo 2005). Additionally, the lack of human and financial resources at the regional (provincial and district) level makes it difficult for provincial governments to adequately plan and manage forests, enabling the continued control of forests by the central government.

- Mitigation and adaptation to climate change

Climate change mitigation and adaptation have become mainstream issues in Indonesia's forest policy. The issues mentioned above are recognized by the government as intertwined with all efforts to reduce emissions from deforestation and degradation and to adapt to climate change. This is reflected in key documents such as Indonesia's SNC to the UNFCCC as well as the REDD+ National Strategy, which identify combating illegal logging, revitalizing forestry industries, conserving and rehabilitating forests, empowerment of local communities and the stabilization of forest areas for the promotion of sustainable forest management as key areas for climate change mitigation and adaptation (MoE 2010; GoI 2012).

4. Commitment 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. It established a voluntary national CO_2 emission reduction target of 26% by 2020 relative to the year 2000,[20] and 41% with additional international financial support.

In May 2010, Indonesia signed a Letter of Intent (LOI) on REDD+ readiness and implementation with the government of Norway. Under the LOI, the two governments agreed that Indonesia would implement a two-year moratorium on the issuance of new licenses for forest concessions on primary forests and peat lands. A year later (May 2011), the President issued the President Instruction No. 10/2011 on "The postponement of issuance of new licenses and improving governance of primary natural forest and peat land".

The LOI, and the funds linked to it (1 billion USD), 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 (a task it was already performing before 2010),
- Establish an agency for the implementation of the REDD+ strategy, including a system for MRV of emission reductions and financial instruments for the disbursements of funds, and
- Develop and implement policy and enforcement measures, including a two-year moratorium of new concessions for the conversion of peat lands and natural forests (Murdiyarso et al. 2011).

The two-year moratorium is implemented by means of the Moratorium Indicative Map (MIM).[21] The MIM encompasses all the Indonesian territory in 291 maps (in a scale of 1:250,000 in JPEG format), and ideally, it should provide the basis for coordinated land use planning.

The moratorium itself has a number of weaknesses and its outcomes appear to be mixed. Although the Indonesian government promotes the moratorium as an important step towards planning the future development of REDD+ (that is, for designing an appropriate legal and organizational framework, and producing a credible reference emissions level), observers are sceptical about the real impact of the moratorium on reducing emissions from deforestation and forest degradation. A revision of the MIM in late 2011 led to the exemption of approximately 3.6 million hectares of land from protected status, as they had been previously awarded for oil palm development, mainly on peat lands. The potential emissions from this area amounts to 14.6 $GtCO_2$, equivalent to seven times Indonesia's total annual carbon dioxide emissions, and it is expected that future revisions of the map will lead to additional exclusions (Wells et al. 2011; Austin et al. 2012).

Some of the main weaknesses of the moratorium are the lack of legal enforcement instruments and the potential loopholes for the award of new licenses, which

raise concerns regarding the effective protection of peat lands against their conversion into oil palm plantations, of which 5.8 million hectares are not included in the moratorium (Murdiyarso et al. 2011; Wells and Paoli 2011).

Another weakness of the moratorium is the interpretation of "natural forest", which refers to an area that has never been logged or damaged by humans, making it equivalent to a primary forest. Wells and Paoli (2011) observe that this interpretation is problematic because a forest that has been previously logged can still be considered natural as long as it is dominated by native species and maintains ecological functions and processes found in primary forests. Therefore, logged forests – in the interpretation of the government – would be considered secondary forests, which are not included in the moratorium; this is regarded as a "missed opportunity" (Murdiyarso et al. 2011). Moreover, the moratorium encompasses areas that are already protected, or under some form of protection, and are therefore less at risk of being converted (ibid).

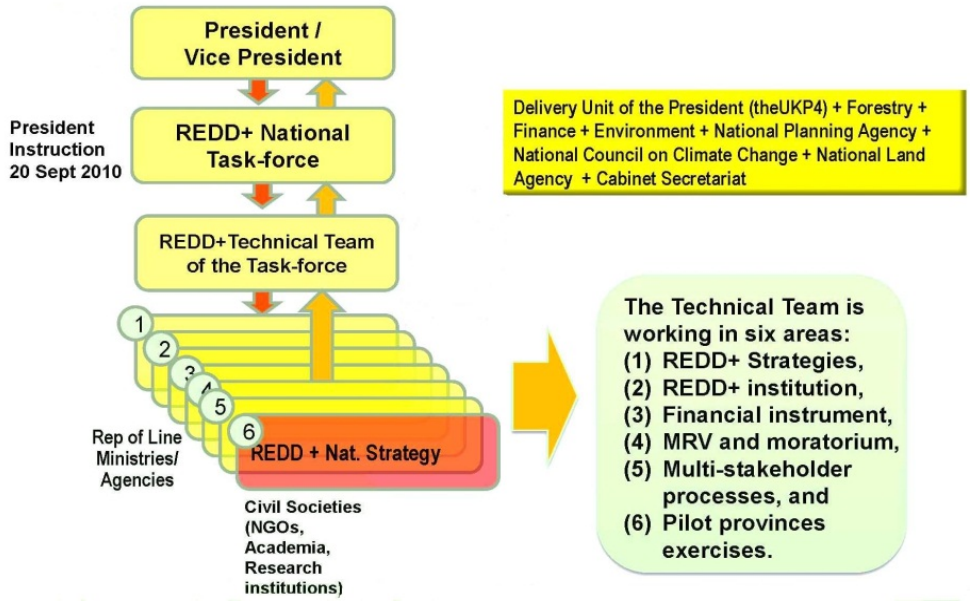
In spite of the weaknesses mentioned before, the moratorium has introduced an element of transparency in processes of land use planning by giving public access to forest and land use data through the online publication of the MIM. This can be considered a step towards improving forest governance. An example of the impact of the MIM can be observed in the case of the burning and conversion for oil palm plantations of the Tripa peat swamp forest in the province of Aceh. The MIM provided substantial evidence to uncover the illegal conversion of the area, producing a national and international outcry that ultimately led to the annulment of the oil palm concession.[22] Considering the high profile of the Tripa peat swamp forest (which forms a biological corridor, together with the Leuser ecosystem and the Gunung Leuser National Park, vital for Sumatran orang-utans), it remains to be seen how replicable this experience may be in other cases where there is less involvement of NGOs and civil society in general.

Although the Norwegian government has pledged significant financial assistance to advance REDD+ readiness and implementation in Indonesia, and the government has taken a number of measures towards these ends, it also promotes activities that compete with REDD+, but are considered vital for Indonesia's economic growth and development, predominantly activities associated with food security and energy generation. The most salient example of loss of natural forests and peat lands to an agricultural crop is the expansion of oil palm plantations, particularly in Sumatra and Kalimantan. This apparent contradiction in policy objectives can be partially explained by the financial value of oil palm against the financial resources available for REDD+; the amount of funds committed to REDD+ up to 2011 was less than US$ 3 billion (Table 6), whereas the export value of oil palm in 2009 was estimated at over US$ 9 billion (TAMSI-DMSI 2010; Hirawan 2011).[23] Therefore, whether the government's commitment to REDD+ in the form of political and policy statements will be translated into concrete actions to conserve and enhance forest carbon stocks across Indonesia remains uncertain.

5. Organizational Framework for REDD+

Prior to the LOI, the preparation of the National Action Plan on GHGs (RAN GRK) – including the action plan on forestry and land use – was entrusted to BAPPENAS (National Development and Planning Agency) with substantial inputs from the Ministry of Forestry.[24] With the LOI, coordination in preparing the REDD+ National Strategy shifted to the National REDD+ Task Force under the authority of the President's Delivery Unit for Monitoring, Development and Oversight (UKP4). Moreover, the UKP4 was also given the task of coordination of the government and ministries, a task that is part of the institutional mandate of BAPPENAS. Representatives of the ministries of Finance, Forestry, Environment, the National Land Agency, the National Climate Change Council and BAPPENAS are members of the Task Force (Figure 2). The Task Force is intended to provide technical and operational assistance for the implementation of REDD+. It seeks to close gaps between the central and local governments and to make sure there is consistency in every activity related to REDD+. Nonetheless, overlaps between the mandates of central and local governments and government agencies remain,[25] suggesting that the Task Force has not yet made full use of its powers.

Figure 2: Structure of the REDD+ National Task Force



Source: Indonesia National Council on Climate Change (2011)

At the national level, the institutional framework governing REDD+ will have three components:

1. A national REDD+ Agency (with an institutional mandate equal to a minis-

try). The Agency will have a steering function involving REDD+ policies and implementation, an implementing function, and a supervisory function, including the implementation of REDD+ programmes. Relevant to its foreseen mandate is the thematic coordination among various ministries/institutions as well as between national and local governments. The Agency will also seek to remove bottlenecks arising from the division of authority between ministries and institutions.

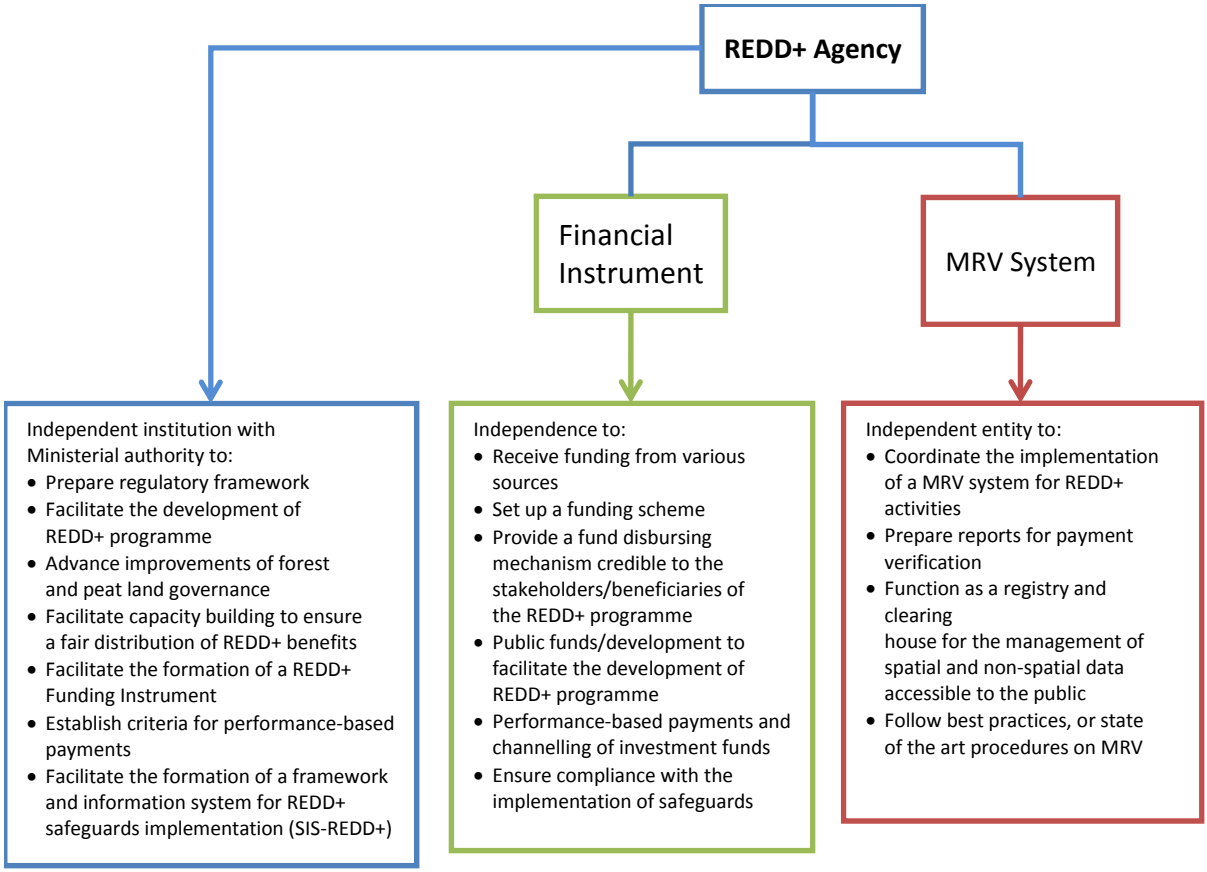
The mandate of the REDD+ Task Force was due to end in December 2012, but as of February 2013 the national REDD+ Agency had not been established. This introduces an element of uncertainty as to what is going to happen if Indonesia cannot fulfil its promise to establish the agency, as foreseen in the Letter of Intent with Norway. This is particularly relevant considering that president Yudhoyono's term will end in 2014, and since the REDD+ Agency and its related mechanisms are established under presidential regulations (which have a lower mandate than government regulations and laws), there is no guarantee they will remain beyond 2014 if they are not given the appropriate institutional mandate.

2. A REDD+ funding instrument to establish a credible disbursement mechanism acceptable to donors and investors, facilitate the efficient allocation of funds and fair benefit distribution, and ensure adherence to fiduciary, social and environmental safeguards. The funding instrument will manage public funds from the state budget, or government-to-government disbursements through either an on-budget/off-treasury approach,[26] or through the State Budget Trust Fund Mechanism. These features will give the Funding Instrument considerable autonomy – and flexibility – for the management and allocation of REDD+ funds.

3. A MRV agency to support the implementation of REDD+ through measurement mechanisms and performance reports on the reduction of GHGs, and through independent verification mechanisms in line with the UNFCCC's development of methodologies and modalities (GoI 2012).

Figure 3 illustrates the organization of the national REDD+ system and the main functions of its agencies. The REDD+ Na-

Figure 3: Organization and mandates of REDD+ institutions



Source: http://www.satgasreddplus.org

tional Strategy specifies that one of the tasks of the REDD+ Agency will be to coordinate and synchronize policies and programmes among not only government institutions and sectors, but also between the central and regional governments in matters related to spatial planning. This means that the REDD+ agency will be entrusted with policy coordination at both the vertical and horizontal level. The Ministry of Forestry and BAPPENAS are already entrusted with these functions, but under their lead, weak policy coordination, poor governance and weak law enforcement have remained challenging. Apparently, the creation of the REDD+ agency is attempting to deal with these issues in a more effective manner. Nevertheless, there is uncertainty on whether the new agency/ministry will create further overlapping mandates and bottlenecks, rather than removing the existing ones.

6. Technical and Financial Assistance for REDD+ Readiness

Since 2008, donors have committed over US$ 4 billion to climate change in Indonesia. More than half of those funds target readiness activities and the establishment of REDD+ projects. These resources target capacity building, establishment of reference emission levels, design and implementation of monitoring systems as well as the development of policies for the implementation of REDD+.

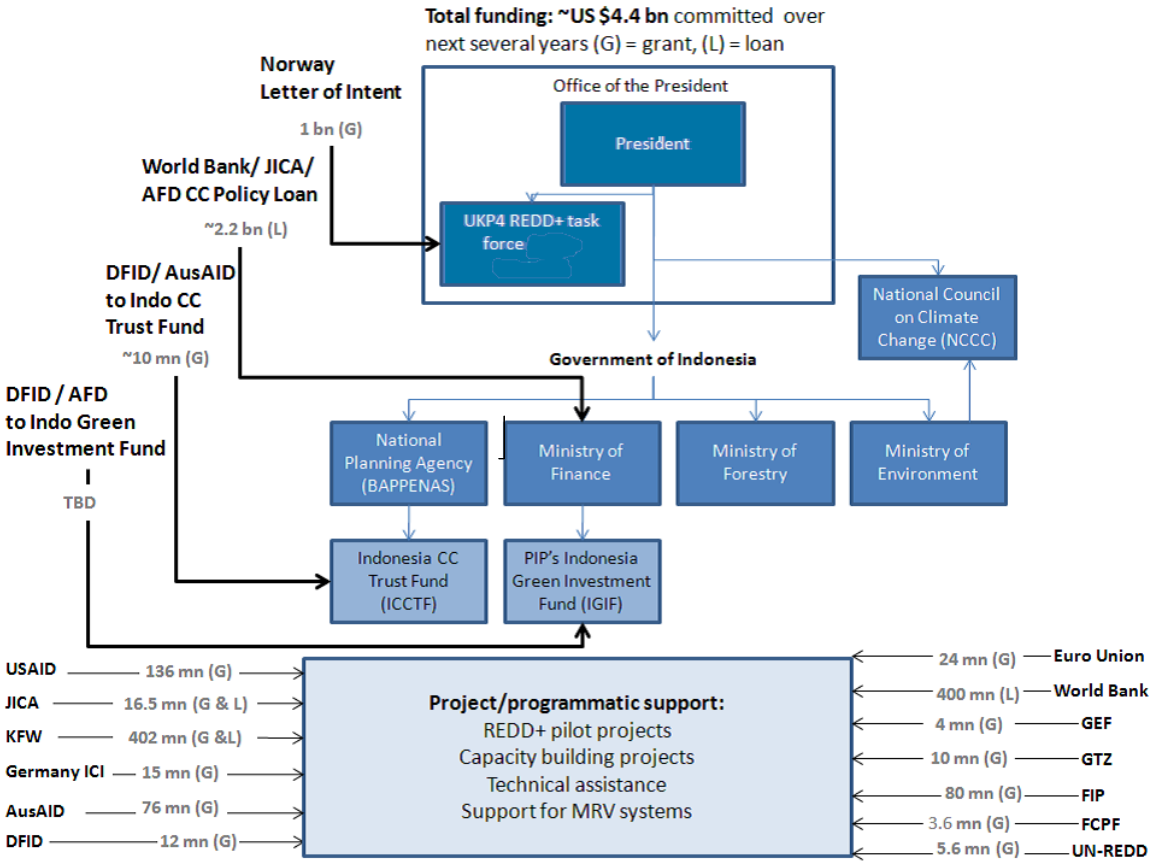
Some of the largest funding related to climate change issues has taken the form of general budgetary support. Japan (through JICA) has contributed over US$ 800 million in budgetary support through the Climate Change Programme Loan. France and the World Bank joined Japan in financing the Climate Change Development Policy Loan ($200 million), as a follow-up to the first loan programme. These loans provided general budget support, with climate-related policies and actions used as performance indicators, and did not directly fund REDD+ readiness.[27]

The UN-REDD programme, the World Bank's Forest Carbon Partnership Facility (FCPF), Forest Investment Programme (FIP), and Australia (among other donors) are making substantial contributions to the readiness process at the national level, with the establishment of a Reference Emission Level (REL) and a Monitoring Reporting and Verification (MRV) system receiving considerable of attention. The Indonesian government is also promoting REL and MRV systems at the province and district levels with support from international donors. For example, the UN-REDD programme is engaged in readiness activities at the province level in Central Sulawesi.

As mentioned above, Norway is committing grant assistance of US$ 1 billion through the LOI, targeting not only the development of strategies and policy measures (e.g. improve enforcement capacity, design a system of financial payments), but also the establishment of the national REDD+ Agency and a MRV system. Australia is contributing over US$ 75 million in finance for the development of a national carbon accounting and MRV system (INCAS). Other donors (EU, Germany, USAID) are providing technical and financial assistance for the establishment of REDD+ pilot projects, capacity building and MRV at the local level. Figure 4 illustrates these financial flows.

Many REDD+ pilot projects are targeting the voluntary market and have submitted their design documents for independent certification (e.g. to the Climate, Community and Biodiversity Alliance (CCBA) and/or the Verified Carbon Standard (VCS)). Although there is much expectation of the potential revenues from carbon offsets, Indonesia has not yet regulated benefit sharing. The MoF released a decree (P. 36/Menhut-II/2009) that established rules for distributing carbon revenues, but later that decree was de-

Figure 4: International support for climate change policies and REDD+ readiness in Indonesia



Source: Brown and Peskett (2011).

clared unconstitutional, as the Ministry of Finance is responsible for such financial matters (MoFi 2009: 104).

The contributions of donors targeting mainly the development of REDD+ at the national and the regional level (instead of projects focused on one particular area) are summarized in table 5 below.

Table 5: Donor support for REDD+ in Indonesia

Area	Purpose	Donor	Managing Agency	Funded Agency	Period	Amount US$* (millions)
Climate Change Programme Loan	Develop public policies to support climate change adaptation and GHG reductions (forestry, energy, industry)	JICA AFD World Bank	Treasury: budget support	Treasury: Balance of Payments	2008-2010	1,000
FIP	Support of REDD+ National Strategy & Readiness	FIP	FIP	TBD	2010-2012	80
FCPF	Management of readiness process (institutional setting and regulatory framework, capacity building, etc); support establishment of REL and MRV; facilitate new REDD demo activities.	FCPF	FCPF	Ministries, REDD WG, FORDA, consultants	2010-2012	3.6
International Climate and Forest Initiative	Support for REDD+	Norway	TBD	TBD	2010-2016	1,000
UN-REDD	Developing designs for payment mechanism linking to MRV system, stakeholder consultation and demonstration activities	UN-REDD	UN-REDD	Ministries, REDD WG, FORDA, consultants	2010	5.6
Climate Change Support Programme	Providing technical assisstance to BAPPENAS, meteorological agency, Ministry of Environment in support of NAMA development, MRV, vulnerability assessment	JICA	JICA	JICA's staff, consultants, etc.	5 yrs.	10
Natural Environment Conservation Programme	Implementation of National Forestry Strategic Plan, Sub Sectoral Programme on Mangrove, National Park Management	JICA	JICA	JICA's staff, consultants, etc.	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	EU	ICRAF	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	EU	CIRAD	2010-2014	3.26
Developing community carbon pools for Reduced Emissions from Deforestation and Degradation (REDD) projects in selected ASEAN countries	To build capacity of local communities and local governments to actively participate in REDD+ pilot projects and feed back lessons learned into policy dialogues at sub-national, national and regional level	EU	EU	Fauna & Flora International	2010-2012	4.26
FORCLIME		Germany (GIZ)	GIZ	GIZ	2010-2015	13.05

Table 5: Donor support for REDD+ in Indonesia (continued)

Area	Purpose	Donor	Managing Agency	Funded Agency	Period	Amount US$* (millions)
Indonesia´s National Carbon Accounting System (INCAS)	Build government capacity for carbon accounting, develop a system to support credible MRV of GHG on REDD	IFCI, Australia	Australian Department of Climate Change and AusAid	Ministry of Forestry, LAPAN	2007-2012	2
IFCA & support for REDD+	Preparation of strategies and analysis for the Government of Indonesia for the COP 13	IFCI, Australia	Australian Department of Climate Change and AusAid	Ministry experts and researchers	2007-2012	3
Asia Pacific Forestry Skills and Capacity Building	Regional capacity for REDD	IFCI (Australia)	Australian Department of Climate Change and AusAID	various institutions	2008/09 - 2010/11	8
Improving governance, policy and institutional arrangements to REDD	Support policy and institutional development at provincial and district level to facilitate implementation of REDD	ACIAR (Australia)	ACIAR	unknown	2008/09 - 2011/12	4.1
Indonesia Climate Change Trust Fund (ICCTF)	Support of ICCTF which has approved a programme on REDD	DFID	UNDP (interim fund manager until 6/2011)	Line ministries in phase 1	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	A selected Indonesian Service Provider	Various institutions, incl. Ministry of Forestry , civil societies and private sector	2007-2011 (2nd phase)	12.33
Total						$2,162.56

Source: Adapted from Brown and Peskett (2011)

**Annual average exchange rates for 2011: $/£=0.6406; $/€=0.7661 (Source: http://www.oanda.com/currency/historical-rates/ accessed 20 September 2012).*

7. REDD+ National Strategy

7.1 Process of developing the strategy

Indonesia effectively began working on a REDD+ National Strategy in the lead up to the 13th COP. Preparations towards the development of the strategy began with the studies drafted by Indonesia's Forest Climate Alliance (IFCA) on REDD methodology, architecture and strategies. The IFCA was funded by the UK, Germany and the World Bank as a forum of communication, coordination and consultation for stakeholders involved in climate change in Indonesia (MoF 2008a).

On the basis of the work delivered by the IFCA, Indonesia became one of the first countries to participate in the World Bank's Forest Carbon Partnership Facility (FCPF). The FCPF provides assistance to countries on REDD+ in two areas: 1- REDD+ readiness (preparing a REDD+ strategy, RELs and MRV systems), and 2- carbon finance to remunerate participating countries for their verified emissions (against an established REL).

In 2008, a REDD commission was established under the lead of the MoF for the development of REDD+ architecture and a readiness strategy. Although the REDD commission was established parallel to the National Council on Climate Change ((NCCC), Indonesia's focal point on climate change), communication and cooperation between both organizations remained unclear (Brown and Peskett 2011).

The lead role for the drafting of Indonesia's REDD+ National Strategy then moved to BAPPENAS, which released a draft of a strategy for public comment in September 2010 (BAPPENAS 2010). The drafting process aimed at establishing an inclusive process through national and regional consultations, and it was conceived as a 'living document', thus new inputs were included in the document as the REDD+ strategy evolved. Presidential Decree Number 19/2010 empowered the REDD+ Task Force to take over the development of the REDD+ National Strategy, and the final version was presented in June 2012.

Even though the development of the REDD+ strategy has employed public consultations processes to varying degrees, complaints were heard from local organizations (e.g. HuMa, debtWatch Indonesia, WALHI, Sawit Watch, and AMAN) over what they felt were lack of transparency and short time frames, hindering them from providing meaningful inputs.[28]

7.2 Elements of the REDD+ strategy

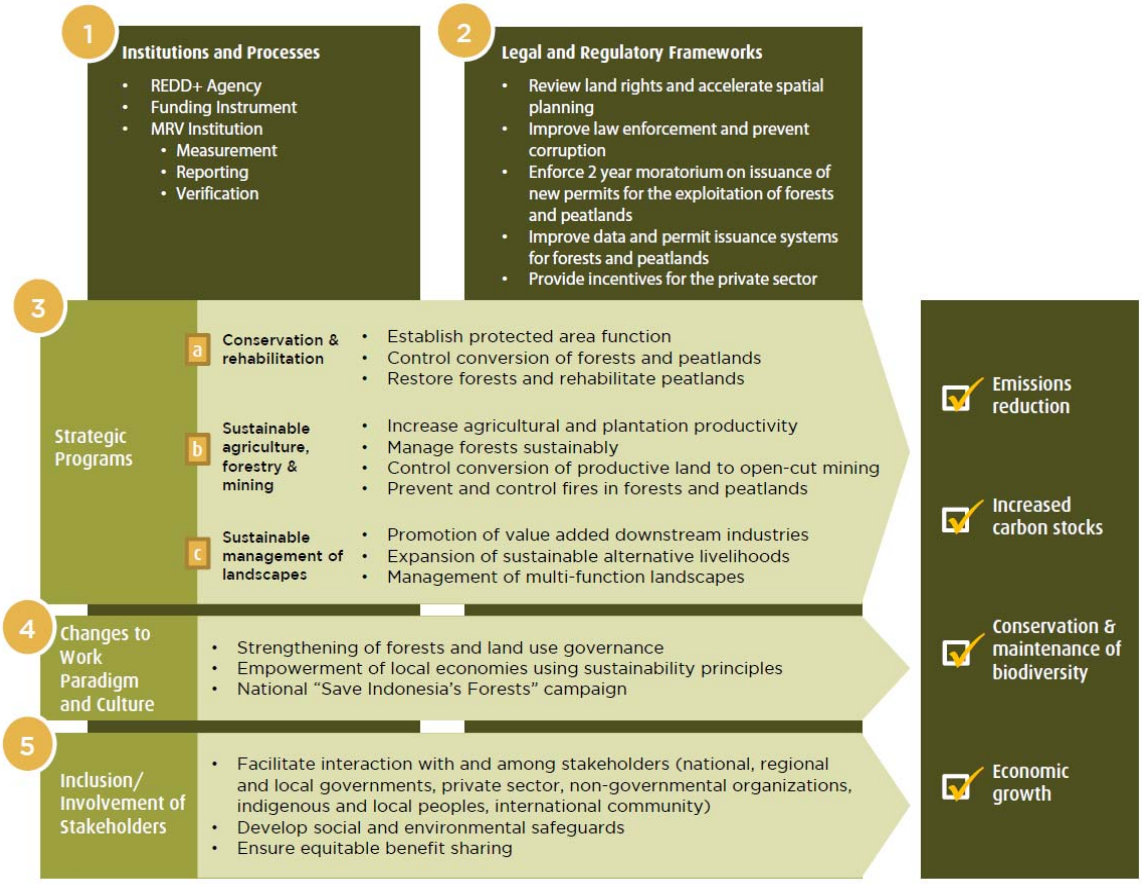
Indonesia's REDD+ National Strategy aims at achieving four main goals (GoI 2012: 7): 1- reduce GHG emissions originating from LULUCF, 2- increase carbon stocks, 3- improve the preservation of biodiversity, and 4- increase the value and sustainability of the economic functions of forests.

To achieve these goals, the strategy builds on five components (depicted in Figure 5 below). The core of the strategy is the institutional framework, which includes the organizations that implement, reward and monitor REDD+ (discussed in

section four), as well as the legal regulatory framework (1 & 2 in Figure 5). The regulatory framework for REDD+ currently consists of several regulations including the Ministerial Regulation on Demonstration Activities (Permenhut 68/2008) (MoF 2008b), and the Ministerial Regulation on REDD Procedures (Permenhut 30/2009) (MoF 2009b). The MoF also released a decree (No. 36/2009) in which it established the procedures for licensing the commercial utilization of carbon sequestration and/or storage in production and protected forests (MoF 2009c). This last decree was released to enable the undertaking of REDD+ activities (and PES activities in general). In this decree the Ministry also attempted to establish a mechanism for benefit sharing from carbon revenues. This benefit sharing mechanism was later declared unconstitutional because the MoF was said to be interfering with the duties of the Ministry of Finance. The Ministry of Finance is considering options for benefit sharing mechanisms, such as performance-based regional incentive funds and special allocation funds (MoFi 2009), but a final decision on a specific mechanism, or allocation of carbon rights, has not been made.

Element four of the strategy (Changes to Work Paradigm and Culture) points to the strengthening of forest and land use governance, the empowerment of local

Figure 5. Elements of Indonesia's REDD+ National Strategy



Source: REDD+ National Strategy (GoI 2012)

economies, and a campaign to save Indonesia's forests. Essentially, the strategy proposes to improve public access to information (though the Freedom of Information Law 14/2008) to enhance transparency in the formulation of laws, regulations and policies, and the award of permits; enhance participation of vulnerable groups such as indigenous peoples and the poor; and capacity-building for these groups to improve their understanding of available information and enhance their participation in decision-making processes. The campaign to save Indonesia's forests aims chiefly at raising public awareness on the local and global value of Indonesia's forests.

Element five (Inclusion/Involvement of Stakeholders) describes a participatory approach to REDD+ that aims at achieving a common understanding and agreement among stakeholders on the relevance of REDD+ for Indonesia. This element emphasises the principles of participation through free, prior and informed consent (FPIC) and communication strategies adapted to local conditions. Issues around the concept of FPIC in Indonesia are discussed in section ten.

The strategy proposes four main areas for the implementation of REDD+: 1. land use planning, 2. land tenure reform, 3. management of forests and peat lands, and 4. forest monitoring and law enforcement.

On land use planning, the strategy foresees strengthening the authority and function of the National Spatial Planning Coordination Board (BKPRN) to synchronize data and information to plan forestry and other land uses based on judicial, biophysical, ecological, socio-economic, and cultural considerations. It also seeks to improve governance through the development of a system of issuance of land use permits that is transparent, with simple regulations and administrative procedures through which actors can be held accountable. There are expectations that the MIM will be useful for inter-sectoral coordination, a key issue for the sustainable management of forests and peat lands. As mentioned above, different agencies use different maps to plan land use, often resulting in conflictive/ overlapping uses of forest resources, which is most noticeable in the interface between agriculture and forestry.

Although the production of the MIM is useful as a standard tool for streamlining the country's efforts in policy making in the forest/land-use sector, its efficacy may still be challenged if the ongoing uncertainties and disputes over property rights are not duly addressed. This is an issue of utmost relevance since only around 10% of Indonesia's forestlands are properly gazetted (Indrarto et al. 2012), and without clearly assigned property rights the improvement of forest governance will remain an elusive goal. The strategy aims at land tenure reform through a survey of land occupied by indigenous peoples and other communities, to be conducted through the Home Affairs Ministry and the National Land Agency. It aims to solve land disputes through out-of court settlement mechanisms, as well as a revision and harmonization of regulations and policies on the use of natural resources to ensure that they uphold the right of communities and indigenous peoples to free prior and informed consent.

The strategic programmes for the implementation of the REDD+ National Strategy will necessarily follow the areas relevant to Indonesia's forest policy. Some issues

pertaining to these areas, their potential contribution to REDD+ and the challenges they may face are summarised in Table 6.

Strengthening law enforcement is one of the most pressing issues for Indonesia, particularly at the local level, since weak law enforcement is often the result of entrenched private interests in local governments and poorly prepared officials unable to mediate conflicts and thoroughly apply the law (EIA/Telapak 2012).

The REDD+ National Strategy seeks to improve forest monitoring and law enforcement through the implementation of Indonesia's national timber verification system (SLVK) as well as sustainable forest management certification. This process foresees strengthening the capacity of prosecutors and the police, as well as establishing a group of judges that will focus on environmental issues, including forestry.

Table 6: Priority areas for REDD+, policy performance and challenges

Policy	Previous policy performance	Potential to contribute to REDD+	Challenges to implementation
Prevention of illegal logging	Policy measures undertaken to reduce illegal logging (e.g., signing of FLEGT-VPA with the EU), but large proportion of timber still felled illegally.[29]	High potential to contribute to maintenance of carbon stocks through reduced forest degradation.	Weak law implementation, weak forest governance.
Rehabilitation of forestland	Mixed results; successful examples found in Java but harder to find in other islands.	High potential for increasing carbon sequestration, maintaining carbon stocks and increase resilience and adaptability.	Poor land use planning and inter-sectoral coordination.
Restructure the forest sector	Measures focused on strengthening FMUs. Progress little documented.	High potential to maintain carbon stocks through sustainable forest management practices, and increase carbon sequestration though the establishment of forest plantations.	Forest management capacity low. Most human resources concentrated in Java; thus massive capacity-building efforts required for outer islands. Financial resources to consolidate the model scarce.
Empowerment of local communities	Progress slow: Grassroots organizations point to lack of recognition of customary rights.	Strong potential to contribute to REDD+ as communities can play a role in MRV and contribute to improved forest governance; Can also improve their capacity to adapt to climate change.	The recognition of indigenous and customary rights highly contested. No guidelines to uphold social and environmental safeguards.
Strengthen the establishment of forest areas, their status and boundaries	Expectations that MIM and FMUs will make important contributions. Progress not extensively documented.	Potential to contribute to REDD+ through improved conservation of forest resources (maintenance of carbon stocks), and reduction of illegal logging (reduces degradation)	Poor forest governance remains major challenge. E.g., clearly defined concession boundaries have not deterred concessionaires from logging outside assigned areas.

Source: Author's elaboration based on BAPPENAS (2010)

8. System for Monitoring and Reporting REDD+ Activities

Indonesia has identified as a major priority the need to reliably document carbon stocks in forests and GHG emissions from land use change to effectively participate in carbon markets dealing with avoided deforestation and forest degradation. The main challenge for monitoring and reporting REDD+ activities in Indonesia is the lack of reliable information on forest resources.

8.1 FRIS and INCAS

Indonesia is developing the Forest Resource Information System (FRIS) as a tool to provide reliable information to plan and monitor the use of forests, and deliver information on deforestation and land use change for Indonesia's National Carbon Accounting System (INCAS). The FRIS has four main components:

1. A remote sensing programme delivering information on the extent of forests and land use change.
2. A ground-based measurement programme delivering information on the condition of the forest, growth and biomass.
3. A geo-database information system.
4. A modelling programme to provide estimates on forest growth, carbon sinks and emissions.

The INCAS (Figure 6) is designed to provide comprehensive information on biomass emissions from all land uses in Indonesia. To produce a reliable baseline on CO_2 emissions, detailed data are required on the different forest types and species. Data on the history of forest disturbance (fire occurrences, harvesting, etc.), soil types, climate, and elevation are also necessary. This information is being obtained from remotely sensed land cover changes, land use and management data, climate and soil data, growth and biomass data as well as spatial and temporal ecosystem modelling.

The main activities being conducted for the INCAS are:

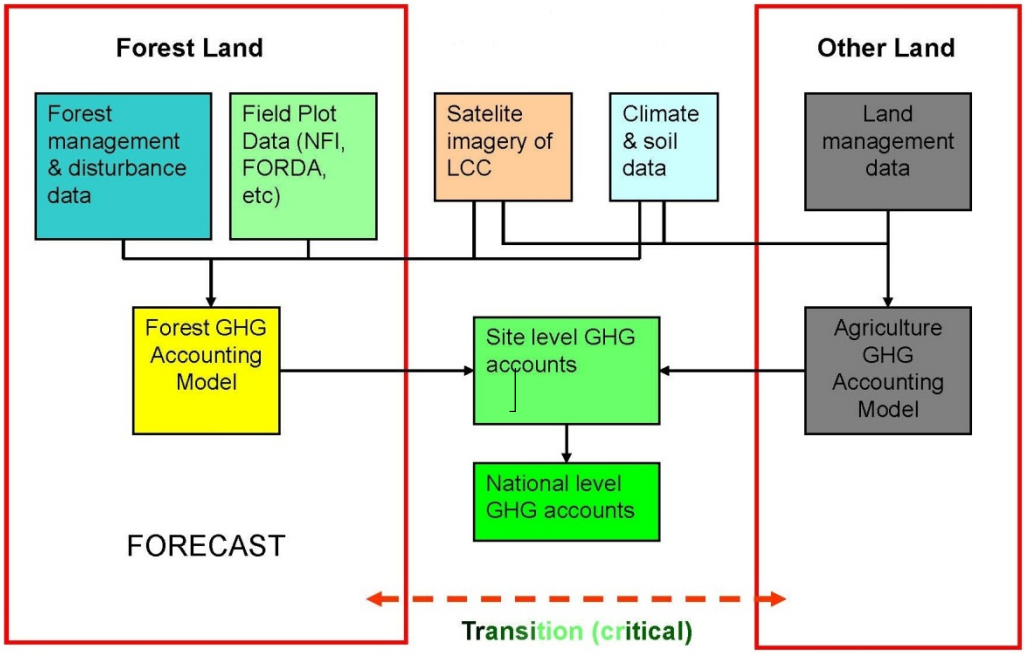
- The implementation of a remote sensing programme to select and acquire time series of medium resolution image data (Landsat and L-band SAR) covering all of Indonesia. Data is also being acquired through Digital Elevation Models (DEM data) and through Moderate Resolution Imaging Spectroradiometer (MODIS). A pilot study of time series of land cover change is being conducted in Central Kalimantan. The pilot is designed to comply with the IPCC's good practice guidelines. The evaluation of the data will deliver a comprehensive set of indicators of disturbance and degradation of biomass.
- The implementation of a modelling and measurement programme for GHG accounting and reporting. This activity aims to cover all biomass pools includ-

ing soil carbon and non-CO_2 biomass emissions. After the model has been tested, upscaling for implementation at the national level is planned.

- A data programme will review and fine-tune the data from FRIS to run INCAS.

At COP 18, the INCAS reported progress for the pilot project in Central Kalimantan in terms of the development of a system to assess forest cover. In this regard, LAPAN has generated annual land cover change maps for Kalimantan and Sumatra. Following the goals of the pilot project, the maps comprise a time series accounting for the last ten years. Similar maps for Papua and Sulawesi are near completion, and maps for the rest of Indonesia are scheduled to be ready by mid-2013. The INCAS has also supported FORDA in the publication of the national guidelines on the use of allometric equations specific to Indonesia.[30]

Figure 6: INCAS architecture



Source: MoF (2010)

8.2 National standards for ground-based measurement

The Ministry of Forestry is working towards redesigning the National Forestry Inventory to calculate emissions and removal factors. In November 2011, following Presidential Regulation No. 71/2011, Indonesia released two national standards for ground-based forest carbon accounting to support monitoring of forest carbon stocks changes for REDD+ and for inventory of GHGs in the forest sector. The two standards are:[31]

1. The standard for ground-based measurement and estimation of forest carbon stocks (SNI 7724) that gives guidance for field measurement and estimation of carbon stocks for the five carbon pools to support monitoring carbon stock changes with IPCC Tier 3 values. The standard will be applicable for all types of forest in Indo-

nesia.

2. The standard for the development of allometric equations to support ground-based forest carbon accounting (SNI 7725).[32] This standard provides guidance for the development of allometric equations for estimating above ground biomass for single and mixed species using destructive sampling methods.

Indonesia introduced these standards to: 1- ensure that the quality of carbon stock measurement (and the establishment of carbon benefits) is uniform across the many REDD+ activities in the country, 2- ensure that the data generated at the project level can be confidently used at the national level.

9. Reference Emission Levels (RELs)

Indonesia's SNC (MoE 2010) applied the IPCC guidelines for land-use change and forestry (LUCF) to estimate national emissions and removals of GHGs (Table 7). However, differences between the land use categories specified by the IPCC LUCF guidelines (2006) and those applied by the MoF to its forest categories must be dealt with to establish a reliable REL. Also, different studies have reported widely differing historical emissions particularly because of varying assumptions of LUCF sector emissions from peat fires (see MoE 2010: II-8).[33]

The MoF is currently working on the development of RELs based on two sets of data: 1- data on land cover change gathered from Landsat 5TM, Landsat 7 ETM + (1990, 1996, 2000, 2003, 2006, 2009, 2010 and 2011), and 2- emission/removal factors gathered from sample plots used in the national forest inventory (NFI) (distributed in 5x5 km or 10x10 km grids). Between 1990-1996, they amounted to 2,735 cluster plots: from 1996-2000, 1,145 cluster plots were established; 485 sample plots were set between 2000-2006, and 2,297 cluster plots between 2006-2010. It is expected that for 2012-2014, 599 new cluster plots will be established each year.[34]

Table 7: Estimates of GHG emissions and removals from LUCF

Gas	2000	2001	2002	2003	2004
CO2-sequestration	-411,593	-402,027	-384,427	-435,037	-431,128
CO2	1,232,766	1,156,433	2,349,902	1,026,507	1,488,520
CH4	56	140	14	13	22
N2 O	24	0	6	6	9
Net emissions	821,254	754,546	1,965,495	591,489	1,057,423

Source: MoE (2010)

10. Safeguards: Approach and Activities

Following the Cancun Agreement, the Department of Standardization of the MoF is working on the development of a REDD+ Safeguards Information System (ISS-REDD). In particular, the safeguards are envisaged to provide protection to the most vulnerable groups. The goal of the MoF is to develop a set of guidelines, criteria and indicators that can be applied nationally and are recognized internationally. The safeguards will require that REDD+ projects respect the right of communities to FPIC. The MoF's Department of Standardization announced that it would release guidelines on safeguards by November 2011 (though their final release is still pending), while the REDD+ Task Force has introduced safeguards principles in the REDD+ National Strategy. It remains unclear which government organization will lead the formulation, monitoring, and validation of the implementation of REDD+ safeguards in the country (Steni and Hadad 2012).

Although the Ministry states that the development of guidelines is being done in consultation with different parties in Indonesia, some grassroots and multilateral organizations have complained that there is lack of consultation with representatives of local actors. There is widespread concern about the ongoing lack of recognition of the rights of indigenous peoples in the country, in particular because Indonesia "*does not recognize the application of the indigenous people concept as defined in the UN Declaration on the Rights of Indigenous Peoples*"[35], of which Indonesia is a signatory member.[36] Much of the existing concern revolves around the disadvantage that this position creates for indigenous peoples in the implementation of REDD+.[37]

While the REDD+ National Strategy emphasizes the need for open, inclusive and transparent consultations as a way to restore and uphold public rights and reinforce governance, without a fundamental change in the government's position, it is difficult to see how proper treatment of the customary rights of indigenous peoples can be given under REDD+.

Another problem is inconsistency amongst the donors in their approach to and positions on safeguards. The UN-REDD Programme strongly promotes the FPIC concept as stated in the United Nations Declaration on the Rights of Indigenous Peoples, which explicitly speaks of 'consent', whereas the World Bank and the Forest Investment Programme prefer the term 'consultation'. There is thus a need for harmonization on social safeguards among donors as well as countries (Steni and Hadad 2012).

11. REDD+ Projects and Demonstration Activities

Indonesia has often been described as the World's epicentre of REDD+ as it has the largest number of REDD+ projects and demonstration activities (Wertz-Kanounnikoff and Kongphan-apirak 2009; Cerbu et al. 2011). There are now reportedly over 50 REDD+ projects in the country in the stages of either planning or implementation, though documentation for all of them is not readily available. Figure 7 and Table 8 provide an overview of documented projects/activities.

The establishment of REDD+ demonstration activities and projects is regulated by the decree on "Reduction of Emissions from Deforestation and Forest Degradation" (MoF 2009b). The decree states that REDD+ projects can be established by partnerships between national and international actors, where national actors can be local governments, private actors, communities and customary rights owners. International actors include governments and their development agencies, NGOs and private organizations.

Figure 7: Location map of REDD+ projects and demonstration activities in Indonesia

Source: Ministry of Forestry (2011)

Demonstration activities are being undertaken by the government in co-operation with multilateral organizations (e.g. ITTO) as well as international NGOs and bilateral donors (e.g. FFI, TNC, AusAid, GIZ, JICA). These activities seek to inform the development of the institutional framework at the local level to enable the implementation of REDD+, and inform the international negotiations on climate change. They also aim at developing RELs and MRV systems and contribute to the integration of national and sub-national activities. Thus, some of these activities are being implemented at the province level, for example in Central Kalimantan and Riau. Voluntary projects are being undertaken by partnerships between local governments, private stakeholders and international NGOs. Some of the projects aim to be certified by voluntary standards (e.g. the CCBA standard and/or the VCS). Although these projects aim at creating financial flows from the trading of carbon offsets, no transactions of carbon offsets for REDD+ have been reported to date from Indonesia.

Table 8: Documented REDD+ demonstration projects in Indonesia

Initiative	Objectives	Donors	Organizations involved	Period	Investment sum	Notes
Ulu Masen Project (Aceh)	• Institution & Capacity Building (I&CB)	• Merrill Lynch/ Bank of America	• Aceh Govt. • FFI • Carbon Conservation (deal broker)	2008-2013 (30 year - project)	$9 million	• Project size: 750 000 ha • Emissions reduced: 3.369 MtCO2e /year, or 100 MtCO2e over 30 year
Kalimantan Forest & Climate Partnership	• I&CB MRV • CBNRM • Rehabilitation	• Australian Govt. • BHP's Biliton	REDD+ Task Force (former REDDI working group)	2009-2012	$30 million	• Project size: 120 000 ha
West Kalimantan; Ketapang, Kapuas Hulu	Rehabilitation	• PT • Macquarie Bank	• FFI • WWF • Local community	2009 -	ND	• Size: 157 000 ha
Malinau Avoided Deforestation Project	• SFM • CBNRM	• PT Inhuntani II • KfW • GTZ	• GER • Malinau Regency • FFI • District Govt. • Tropenbos Intl.	ND	ND	• Project size: 260 000 ha • Emissions reduced: 1.1 MtCO2e per year, 25 year project
Berau, Indonesia Climate Action Project; Kabupaten Berau Forest Carbon Programme	• SFM • I&CB MRV	• USAID	• TNC & other local & intl. NGOs • District Govt. • ICRAF • Sekala • Uni. Mulawarman • WI • Uni. of Queensland	2009-	ND	• Size: 971 245 ha • Emissions reduced: 5 000 000 t/year
Berbak Carbon Value Initiative	ND	ND	• ERM • ZSL • Berbak National Park	ND	ND	• Size: 250 000 ha • Emissions reduced: 700 000 t/year
Kalimantan: Meru Betiri National Park REDD Project	ND	Public-Private Partnership (7&i Holdings Ltd)	• ITTO, Govt. of Indonesia	ND	ND	ND
Kalimantan: Heart of Borneo	ND	ND	• WWF	ND	ND	• Size: 22 million ha
Kalimantan: Jayapura regency	ND	• WWF	ND	ND	ND	• Size: 217 634 ha
Cyclops Mountains near Jayapura	ND	ND	• FFI, Papua Provincial Govt.	ND	ND	• Awaiting Central Govt. approval
Gunung Halimun Salak National Park	• Protected Area Management • CBNRM	• JICA • US Govt.	• JICA • US Govt.	2004-2009	ND	
Papua Carbon Project (Kabupaten Mimika in Papua & Kabupaten Memberamo)	• Rehabilitation • CBNRM • SFM	• CI & FFI	• CI • New Forest, Emerald Planet • FFI • Local community • Other NGOs	2008-	ND	• Project size: 265 000 ha • Emissions reduced: 1 000 000 – 2 000 000 t/year

Table 8: Documented REDD+ demonstration projects in Indonesia (continued)

Initiative	Objectives	Donors	Organizations involved	Period	Invest-ment sum	Notes
Kampar Ring & Kampar Core Project	• Rehabilita-tion	ND	• NGO partners • Local Commu-nity • Leaf Carbon Ltd • Govt. & APRIL/RAPP	ND	ND	• Project size: 400 000 ha • Emissions reduced: 10 MtCO2e per year
Harapan Rainfor-est Project	• Rehabilita-tion	ND	• Burung Indone-sia • The Royal So-ciety for the Protection of Birds • Birdlife Inter-national	2008-	ND	• Project size: 101 000ha
Mawas Peat land Conservation Area Project (Orangutan PCAP in Central Kali-mantan)	ND	• The Dutch Royal Govt. • Shell Canada	• The Borneo Survival founda-tion • The Dutch Royal Govt. • Shell Canada	ND	ND	• Project size: 364 000 ha • Emissions reduced: 1 442 288 t/year • PDD validated by Winrock Intl.
Central Kaliman-tan Peat land Project (CKPP)	• Rehabilita-tion	• Dutch Govt.	• WWF • BOS Mawas Programme • Wetlands Intl. • CARE Intl. In-donesia • Palangka Raya University	ND	ND	• Project size: 50,000 ha (500 000 ha)
Forestland Use & Climate Change in North Sulawe-si (FLUCC) in the Poigar Forest	• PA (protect primary for-est) •Rehabilitati on	ND	• Green Syner-gies	ND	ND	• Project size: 34 989 ha • Emissions reduced: 170 000 t/year
Mamuju Habitat	• Rehabilita-tion • CBNRM • SFM	ND	• Keep the Habi-tat • Inhutani I • CI	15 yeas - extend-able	AUD7 million per year over project life	• Project size: 30 000 ha • Emission reduced: 250 000 t/year
Merauke- Mapp-Asmat demon-stration activity-REDD+	• Rehabilita-tion	• WWF	• WWF	ND	ND	
Sebangau REDD+ Project	ND	• Deutsch e Post	• WWF • Terracarbon	ND	ND	• Project size: 580 000 ha
Protection of biodiversity through reduced deforestation (REDD+) in the peat land & for-est of Merang, Southern Suma-tra	ND	• Ger-man Govt.	• Intl. Climate Initia-tive (ICI) • German Govt.	2008-	$2.2 million	

Source: Adapted from Wertz-Kanounnikoff, S. and M. Kongphan-apirak (2009)

12. Conclusions

Progress on REDD+ readiness in Indonesia is most observable at the technical level. The pilot project in Central Kalimantan has produced a ten-year time series of land cover change maps; the advancement of similar maps for Kalimantan and Sumatra are said to be close to be completed, and land cover change maps for the rest of Indonesia are expected for mid-2013. At the policy level, although the final draft of the REDD+ National Strategy can be considered a step forward, progress is harder to assess. The REDD+ National Strategy is building on existing policy efforts, and consequently, inter-sectoral policy coordination, governance and law enforcement, forest sector restructuring, property rights and forest boundary demarcation are priorities.

Although institutional arrangements exist to deal with inter-sectoral policy coordination in the forest sector, success in delivering policies and instruments that support sustainable forest use has been limited. In terms of inter-sectoral policy coordination and concerted land use planning, the REDD+ Task Force has produced the MIM with the inputs of various government agencies. This has raised expectations that the MIM, which is to be regularly updated by the REDD+ Task Force, will facilitate the demarcation of forest areas as well as inter-sectoral policy coordination, as the MIM is expected to be used by all agencies involved in allocating use rights in forest lands. There are signs that the MIM could also contribute to forest governance by making land use data available to the public. The effectiveness of the MIM will depend heavily on the political will to prevent further encroachment of agriculture and plantations into Indonesia's forests and peat lands. However, decisive political will towards REDD+ may be difficult to harness considering the national interest in economic growth, the large benefits associated with the development of activities such as oil palm plantations, and the loopholes in the moratorium agreed with Norway that may allow the further award of licenses.

Whereas the need to establish specialized agencies to deal with the finances of REDD+ and MRV is somewhat straightforward, there are concerns that the creation of the REDD+ agency creates overlaps with the MoF and BAPPENAS on policy coordination in the forest sector, with regional governments, and across ministries. Although the MoF and BAPPENAS have struggled to fulfil their mandates, it may be worthwhile exploring whether they can be sufficiently strengthened to implement REDD+ before establishing a new ministry.

Social safeguards are also considered in the REDD+ National Strategy. Consultation and inclusion of communities and indigenous peoples in the processes that have assigned property and use rights over forest resources have traditionally been weak in Indonesia. Therefore, the emphasis on transparent and inclusive consultations is a positive feature of the strategy. Nevertheless, NGOs, indigenous organizations and the United Nations have expressed concerns about the ongoing lack of recognition of indigenous

rights and the disadvantage this represents for their effective access to forest resources and therefore, to benefits that may arise from REDD+. The government cannot expect to establish social safeguards that are recognized internationally without fully addressing the rights of indigenous peoples.

For decades, powerful actors and circumstances have hindered the sustainable management and use of forests, particularly interest groups that profit from deforestation, regulations and policies that favour them at the expense of local stakeholders, and policy formulation processes that fail to meaningfully engage local stakeholders. Additionally, national priorities such as energy and food policies, for which the benefits are more certain, compete with REDD+, which provides no certainty of payments to compensate for the lost land use opportunities.

For REDD+ to be credible it must be demonstrated that the underlying causes of deforestation are being convincingly addressed. The government is attempting to address some of these issues within the broader contexts of land use planning, decentralisation, democratization and law enforcement. The initiatives range from efforts to combat corruption, establishing and strengthening FMUs to increase accountability, professionalism and the engagement of local level actors in forest management, to undertaking consultations at the local level in a more transparent way. Decisive advances in both REDD+ readiness and the actual implementation of REDD+ at the national and sub-national level will demand ongoing commitment to effectively transform forest governance, build capacity and integrate REDD+ objectives across the government and broader sectors of society.

13. Endnotes

[1]Indrarto et al. (2012) notes that the estimate of forest cover in Indonesia varies depending on the source, and attributes the discrepancies to three main causes: different definitions of forest, different forest classifications, and different data analysis methods.

[2]Tata Guna Hutan Kesepakatan (TGHK).

[3]See http://www.cifor.org/ard/documents/results/Day5_Daju%20Resodudarmo.pdf (accessed 03 October 2012).

[4]According to Resosudarmo (2012), less than 12% of the forest lands in Indonesia are properly gazetted.

[5]Fitrian Ardiansyah, personal communication (November 11, 2012).

[6]The percentage in each category is given in reference to the country's total land area: 187.9 million hectares (FAO/MoF 2009).

[7]Dominated by the species *Acacia* spp, *Albizzia* spp, *Gmelina* spp, and *Eucalyptus* spp (Chrystanto and Justianto 2003: 155).

[8]See: http://brwa.or.id/

[9]See: http://www.satgasreddplus.org/en/component/k2/item/58-indigenous-map-handover-tepping-towards-one-map

[10]See: http://www.globalforestwatch.org/english/indonesia/forests.htm

[11]Other sources refer to varying annual deforestation rates. For example, the World Bank (WB 2009) assesses the average annual deforestation rate between 1990 and 2005 at 1.8%, whereas Mongabay reports an average annual rate of deforestation of 1.02% between 1990-2010. See also Hansen et al. (2009), and http://www.globalforestwatch.org/english/indonesia/forests.htm

[12]See: http://www.thefreelibrary.com/Forest-ry+soft+landing+policy+threatens+timber+processing+industry.-a0124261449

[13]Indonesia's GDP grew (in real terms) between 4.8% and 6.1% annually from 2000 to 2010 (see: http://www.indexmundi.com/g/g.aspx?c=id&v=66).

[14]See also: http://www.pulpmillwatch.org/countries/indonesia/ (accessed 03 August, 2012).

[15]See: http://www.dephut.go.id/index.php?q=id/node/6005 (accessed 11 January 2013).

[16]Stakeholder engagement, particularly of local communities, is a cross cutting issue across the forest policy priority areas.

[17]See: http://haze.asean.org/hazeagreement/status (accessed 23 January 2013)

[18]Government officials contend that this gap has been reduced. Nonetheless, they admit that the imbalance persists.

[19]See http://www.iges.or.jp/en/cp/pdf/activity20100216/D1_S3_MASRIPATIN.pdf (accessed 21 November 2012)

[20]See: http://www.monash.edu.au/research/sustainability-institute/assets/documents/seminars/11-05-12_msi-seminar_indonesia_a-supangat.pdf (accessed 30 August 2012).

[21]The indicative map can be viewed at http://appgis.dephut.go.id/appgis/petamoratorium.html

[22]See: http://www.redd-monitor.org/2012/05/15/indonesia-destroying-tripa-peat-swamp-forest-is-an-act-of-criminal-vandalism/ (accessed 20 November 2012).

http://www.redd-monitor.org/2012/09/07/indonesian-court-revokes-oil-palm-concession-in-tripa-peat-swamp/ (accessed 20 November 2012).

[23]Until 2007, the IFCA estimated this value around USD 3.75 billion (MoF 2008a: 4)

[24]Today, RAN GRK has its own secretariat and BAPPENAS is one of its partner organizations.

[25]See: http://www.eastasiaforum.org/2012/08/04/indonesia-s-forests-a-year-into-the-moratorium/ (accessed 20 November 2012).

[26]On-budget/off-treasury means that expenditures can be executed by the donors themselves or by non government agents on their behalf. Assets or services are delivered to the government in-kind, but the government does not handle the funds itself (Brown and Peskett 2011: 14).

[27]The Climate Change Programme Loan from JICA (and the following loan in partnership with AFD and the WB), did not exclusively target the forest sector, but also the development of policies conducive to adaptation and reduction of GHGs in sectors such as energy, industry and transportation.

[28]This is, for example, the case of the establishment of the Forest Investment Programme, which provides funds for REDD+ readiness at the national and the sub-national levels. The donors include the ADB, WB, and IFC. For more information see: http://www.redd-monitor.org/2012/04/06/ngos-demand-that-forest-investment-program-in-indonesia-is-postponed-until-demands-are-met/ (accessed 05 October 2012).

[29]See Luttrell et al. (2011).

[30]See http://www.iafcp.or.id/multimedia/detail/13/INCAS-Indonesia-Climate-Change-Day-Doha-2012 (accessed 16 January 2013).

[31]See: http://www.dephut.go.id/files/Introduction%20(English%20Version).pdf

[32]The standard refers to the COP15 decision on REDD+ methodology guidance (Dec. 4/CP-15), IPCC 2006 Guidelines for National Greenhouse Gas Inventories, and IPCC 2003 Good Practice Guidance for Land Use, Land Use Changes and Forestry. Technical guidelines for the development of allometric equations to support ground-based forest carbon accounting are found under: http://www.dephut.go.id/files/SNI%207725%202011%20_(English%20version)%20Development%20of%20allometric%20equations%20for%20estimating%20forest%20car_0.pdf

[33]See also: http://www.dephut.go.id/files/ANNEX%207.1%20-%20Lecture%20Presentation%201%20on%20REL%20_RL-%20Rizaldi%20Boer.pdf

[34]See: http://www.forestcarbonpartnership.org/fcp/sites/forestcarbonpartnership.org/files/Documents/PDF/Nov2011/Techinal%20work-

shop_washington_anna_indonesia09101111.pdf (accessed 20 September 2012).

[35]See: http://www.redd-monitor.org/wordpress/wp-content/uploads/2012/10/indonesias-response-to-unpr.pdf (accessed 18 November 2012).

[36]The reluctance of Indonesia to recognize the rights of indigenous peoples originates (at least partly) from the fear that this will encourage separatist movements.

[37]See:

http://www2.ohchr.org/english/bodies/cerd/docs/early_warning/Indonesia130309.pdf(accessed 18 November 2012)

http://www2.ohchr.org/english/bodies/cerd/docs/early_warning/Indonesia28092009.pdf (accessed 18 November 2012).

http://www.forestpeoples.org/sites/fpp/files/publication/2012/02/2012-cerd-80th-session-ua-update-final.pdf (accessed 18 November 2012).

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