
Legal and Policy Barriers for Biodiversity Conservation Within Oil Palm Plantations

**Technical Report
Wildlife Conservation Society**

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List of Abbreviations

AMDAL	: Analisis Mengenai Dampak Lingkungan Hidup/ <i>Environmental Impact Assessment</i>
ANDAL	: Analisis Dampak Lingkungan Hidup/ <i>Environmental Impact Analysis</i>
APL	: Areal Penggunaan Lain/ <i>Land allocated for other purposes (also known as non-forest area)</i>
BPN	: Badan Pertanahan Nasional/ <i>National Land Agency</i>
CPO	: Crude Palm Oil/Minyak sawit mentah
DR	: Dana Reboisasi/ <i>Reforestation fund</i>
GOI	: Government of Indonesia/ <i>Pemerintah Indonesia</i>
HGU	: Hak Guna Usaha/ <i>Business Use Right</i>
HP	: Hak Pakai/ <i>Utilization Right</i>
Inpres	: Instruksi Presiden/ <i>Presidential Instruction</i>
IPK	: Izin Pemanfaatan Kayu/ <i>Timber Utilization Permit</i>
IUP	: Izin Usaha Perkebunan/ <i>Cultivation Business Permit</i>
Kepres	: Keputusan Presiden/ <i>Presidential Decree</i>
KBNK	: Kawasan Budidaya Non Kehutanan/ <i>Area for non-forestry purposes</i>
KMNA	: Keputusan Menteri Negara Agraria/ <i>Ministerial Decree regarding Agraria</i>
KPO	: Kernel Palm Oil/Minyak sawit inti
PBN	: Perkebunan Besar Negara/ <i>State-owned plantation</i>
PBS	: Perkebunan Besar Swasta/ <i>Private-owned plantation</i>
PR	: Perkebunan Rakyat/ <i>Smallholder plantation</i>
PKS	: Pabrik Kelapa Sawit/ <i>Mills</i>
MHA	: Masyarakat Hukum Adat/ <i>Customary rights community (Indigenous Peoples)</i>
Perkaban	: Peraturan Kepala BPN/ <i>Regulation of Head of National Land Agency</i>
Permenhut	: Peraturan Menteri Kehutanan/ <i>Forestry Ministerial Regulation</i>
Permentan	: Peraturan Menteri Pertanian/ <i>Agriculture Ministerial Regulation</i>
PIR	: Perkebunan Inti Rakyat/ <i>Nucleus Smallholder Estate</i>
PMNA	: Peraturan Menteri Negara Agraria/ <i>Agraria Ministerial Regulation</i>
PP	: Peraturan Pemerintah/ <i>Government Regulation</i>
PSDH	: Provisi Sumber Daya Hutan/ <i>Forest resources provision</i>
RKL	: Rencana Pengelolaan Lingkungan/ <i>Environmental Management Plan</i>
RPL	: Rencana Pemantauan Lingkungan/ <i>Environmental Monitoring Plan</i>
UKL	: Upaya Pengelolaan Lingkungan/ <i>Environmental Management Effort</i>
RTRW	: Rencana Tata Ruang Wilayah/ <i>Regional Spatial Planning</i>
UPL	: Upaya Pemantauan Lingkungan/ <i>Environmental Monitoring Effort</i>
UU	: Undang-Undang/ <i>Act</i>

List of terminology

Hutan/Forest is an ecosystem unit in the form of a landscape containing biological resources dominated by trees, which is inseparable from its surroundings.

Kawasan Hutan/Forest Area is a particular area which is designated and gazetted by the government as an area with permanent forest.

Hutan negara/state-owned forest is forest located on the state-owned land with no concession right and land title.

Hutan tetap/Permanent forest is an area that will be permanently maintained as forest area, consists of conservation forest, protected forest, limited production forest and permanent production forest.

Hutan adat/Customary forest is state-owned forest located within territory of a community adhering a customary law system.

Hutan Produksi/Production forest is a forest area designated to produce forest products, and can consist of permanent production forest, limited production forest, convertible production forest.

Hutan Produksi Tetap/Permanent production forest (HP) is a forest area with certain class of slope, soil type, rainfall which has a score under 125, outside protected forest and conservation forest.

Hutan Produksi Terbatas/Limited production forest (HPT) is forest area with certain class of slope, soil type, rainfall which has score between 125-174, outside protected forest and conservation forest.

Hutan produksi yang dapat dikonversi/Convertible production forest (HPK) is production forest area which is allocated for development of non-forestry purpose.

Hutan lindung/protection forest is a forest area designated mainly to protect life-supporting systems that regulate water system, prevents floods, controls erosion, prevents sea water intrusion and maintains soil fertility; and conservation forests are those with specific attributes functioning to preserve biodiversity and its ecosystem.

Hutan konservasi/Conservation forest is a forest area with particular characters, designated mainly to preserve biodiversity and its ecosystem; consists of nature reserve area, nature conservation area, and game reserve.

Kawasan hutan suaka alam/Nature reserve forest area is forest area with a unique character, mainly to preserve biodiversity and related ecosystems, as well as an area for life supporting systems; consists of nature reserve and wildlife sanctuary.

Kawasan hutan pelestarian alam/Nature conservation forest area is forest area with a unique character, mainly to protect life supporting systems, preserve biodiversity, and sustainable use of biological resources and ecosystems; consists of national park, grand forest park, and nature recreation park.

Taman buru/Game reserve is a reserve designated for wildlife hunting

Perubahan fungsi kawasan hutan/Forest function change is the change of the partial/whole status and function of a particular forest area into other status or function.

Tukar menukar kawasan hutan/Forest swap is forest being swapped between forest areas and non-forest areas, whereby the status of production forest (HP) and/or limited production forest (HPT) is being changed into non forest area, followed by the inclusion of a non-forest area into forest area.

Pelepasan kawasan hutan/Relinquishment forest area is the change of the status of convertible production forest into non forest area.

Izin Pemanfaatan Kayu/Timber utilization permit (IPK) is the permit to extract the timber from a relinquishment forest area for non-forestry development.

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I. Introduction

A. Background

Oil palm is one Indonesia's prime products that generates foreign exchange, labour, and regional economic development. The oil palm industry is also a unique resource that generates income at community level. At the same time, the industry allows central and local government to receive taxes, retribution, and export tax from palm oil products and its derivatives.

The final product of the oil palm fruit is crude palm oil (CPO) and kernel palm oil (KPO). These products are then refined into manufactured products such as oleo-chemical products, biodiesel, and cooking oil. Byproducts such as waste are used as fertilizer and fodder. Indonesia and Malaysia are major exporting countries and account for 85% of global palm oil production. In 2009, Indonesia produced 20,9 million tons of CPO/KPO, and Malaysia produced 17,6 million tons of the total 45,1 million tons global production (Teoh, 2010).

Indonesia targets a continuous oil palm expansion to retain its role and domination as the largest palm oil producer in the world. The central and local governments provide support to achieve this target as part of economic development goal, regional development, and revenue. The World Bank and Asian Development Bank have provided funding support to accomplish the targets (Brown & Jacobson, 2005). Foreign investors and national banking companies also accommodate this plan by providing loans to support the development of oil palm plantations. The Mandiri Bank for example, has provided loans up to the amount of IDR 30.2 billion (US\$ 3.5 million¹) in 2010 alone (Tempo Interaktif, 2 December 2010).

The oil palm plantations are mostly expanded in non-forest area (also known as APL/Other Purposes Land) and forest areas through forest conversion mechanism. This expansion of oil palm plantation in forested areas and converted forests are regarded as the driven factors of deforestation and habitat loss for charismatic and protected species (Brown & Jacobson, 2005; Buckland, 2005). Koh & Wilcove (2008) has analyzed national land-used data in Malaysia and Indonesia which were compiled by FAO, and they concluded that between 1990 and 2005, about 55-59% of oil palm expansion in Malaysia was carried out through forest conversion whereas up to 56% in Indonesia. Those forest conversions have significantly decreased the diversity of bird and butterfly.

Forest conversion has also influence food chain and foraging behavior of wildlife which previously inhabited the conversion forest. Generalist wildlife may be adaptive to the new plantation landscape, but most of forest dwellers will seek and live in the remaining fragmented forest with limited carrying capacity for the entire population. Under unfortunate circumstances, some species such as orangutan, tiger, and elephant may come to forage within

¹ US\$ 1= IDR 8,500

oil palm plantation or just to across plantation to another forest path. At certain level, it may create human wildlife conflict. Community and company may consider their presence as a threat to their life, livestock, and plants. On the other hand, the wildlife may be killed or captured for food or trade (Buckland, 2005; Nelleman *et al.*, 2007; Yaap *et.al.*, 2010).

In the same time, the expansion in APL is often resulting in social conflicts because the land acquisition process has ignored land tenure systems, customary rights (hak ulayat), and the socio-cultural background of communities (Colchester, *et al.*, 2006). A combination challenge in regards to environment and social issues were identified as environmental and social cost which merely neglected by companies and authorities (Manurung, 2001).

In 2004, key players in palm oil industry– including growers, mills, traders, buyers and environmental NGOs established the Roundtable on Sustainable Palm Oil (RSPO) to anticipate and reduce socio-environmental issues related to the business. One of RSPO's objectives is to promote a sustainable palm oil standard that is socially responsible, environmentally friendly, and economically feasible.

Although the membership is voluntarily, RSPO members commit to produce sustainable palm oil as guided by the Principles and Criteria of RSPO to obtain a sustainable palm oil certificate. However, the implementation of RSPO's Principles and Criteria may face serious challenges without the technical and policy support from local and central government, local communities, civil society, scientists, and academics.

Over the last few years, the European market have encouraged and demanded that producer countries avoid further deforestation and social conflicts by implementing RSPO's Principles and Criteria. The Government of Indonesia has finally responded to this demand by issuing an Agriculture Ministerial Regulation No. 19/2011 regarding Indonesia Sustainable Palm Oil (ISPO) Standards. This regulation would be tried out in 2011, and effectively implemented in 2012. Growers and Mills companies in Indonesia must comply at the end of 2014 to ISPO Standards.

Five technical Ministers within the GOI hold responsibilities related to the regulation and control of oil palm plantation development, including location permit, plantation permit, environmental impact assessment, and land acquisition. Those regulatory measures include agrarian, forestry, plantation, environmental, and spatial planning laws. In addition to that, plantation companies must also comply with several regulations regarding autonomy, investment, taxation, and man power. At some levels, these regulations are overlapping and contradictive which affects the transparent process of developing and managing an oil palm plantation.

To develop a better understanding on the above issues, the Wildlife Conservation Society Indonesia Program in collaboration with Zoological Society of London has carried out a study on the Indonesian legal and policy framework related to biodiversity conservation within oil palm plantations.

B. Objective

The objectives of this study are to identify regulations and policies that influence biodiversity conservation in oil palm plantation development in Indonesia; to explore the advantages and challenges of the regulations and their implementation; to identify the legal aspects related to the implementation of the principles and criteria of ISPO and RSPO; and provide recommendations aimed to support sustainable oil palm development.

C. Methodology

This research was initially conducted by reviewing literature and legal documents related to palm oil development in Indonesia and biodiversity conservation. The scope of this desk study focused on regulations related to land tenure, forestry, plantation, environment, and land use. Several key findings related to those regulations are discussed in this report.

Field visits to the oil palm plantation and meetings with concession holders were carried out to identify and discuss challenges and crucial issues in the implementation of policies and regulations related to oil palm development and biodiversity conservation. The meetings, discussions and visits were used to collect primary data, as well as obtain feedback and cross check information on regulations, as well as identify policy gaps and needs. Further discussions were also conducted by phone and email. A number of focus group discussions were also carried out to collect feedback from various stakeholders in regard to the findings of this report.

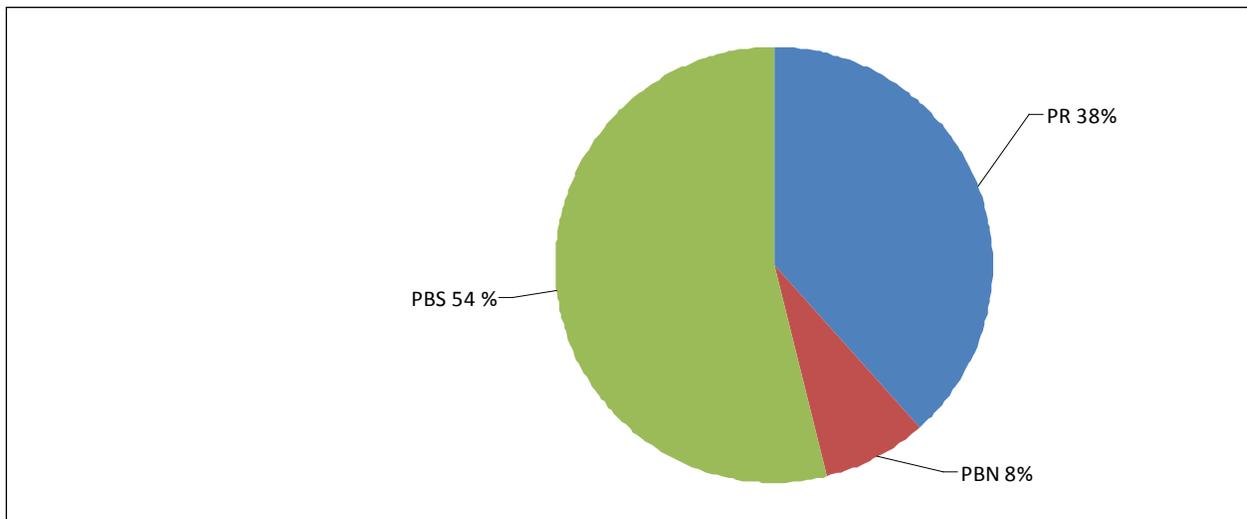
Parts of this study have been presented in four workshops, including the RSPO Green House Gas Working Group in Singapore (April 2011), Sustainable Oil Palm Workshop in London (May 2011), High Conservation Value Workshop in Bogor (September 2011), and Orangutan Conservation Workshop in Jakarta (September 2011). Comments and feedback from participants regarding the presentations were also taken into account in the report.

II. Indonesia Oil Palm Plantation

In 2005, the Ministry of Agriculture developed a vision for oil palm development as a “competitive, community-oriented, sustainable, and decentralized agro-business system”. This strong vision targeted 350.000 ha of palm oil plantation expansion/year from year 2005-2010, based on the existing data of high potential area (24.878.579 ha), medium potential area (3.377.106 ha), and low potential area (18.648.431 ha) in Indonesia. The strategy to implement the above vision was to empower down-stream industries and strengthen up-stream industries (Agricultural Research and Development Agency, 2005).

Unfortunately, the document didn’t include clear information on the potential location of plantations and the land status. Though the vision in the document sounded ambitious but achievable, it focused more on the expansion of plantations and the regeneration of in-productive plantations. The document did not touch on issues such as community orientation and sustainability or biodiversity conservation as stated in the overall vision.

Figure 1. The comparison of smallholders (PR), government plantation (PBN) and Private plantation (PBS) in 2010 (Directorate General Plantation, 2011)

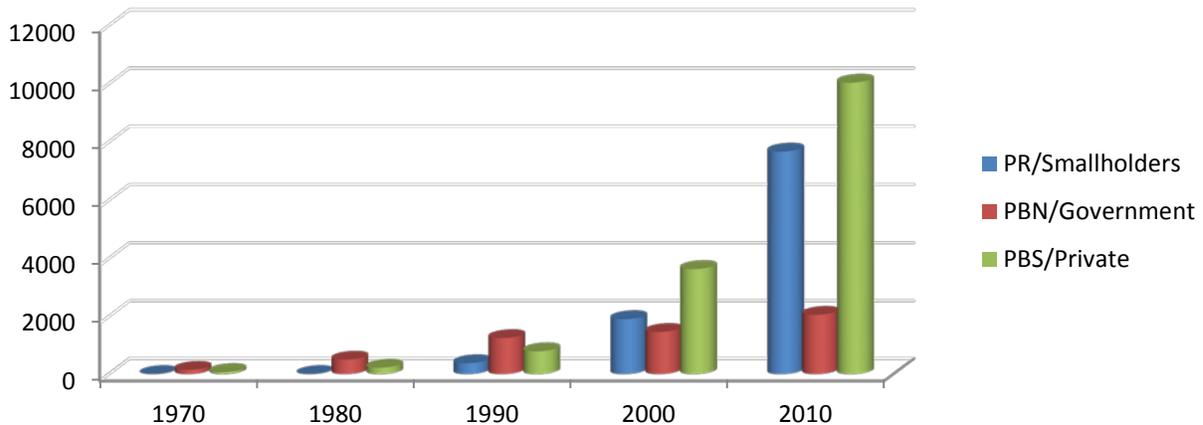


*Statistic data presented is temporary data.

At the end of 1960’s, the oil palm plantation ownership was dominated by state-owned (PBN), private-owned (PBS) companies, without having community-owned plantation/smallholders (PR). Smallholders plantations were initiated in 1979 (3.125 Ha) and expanded into 118.564 Ha in 1985. Three years later, PBS and PR together already dominated the oil palm plantation ownership with 56,7% of the total area. In 2010, PBS and PR occupied 92 % of the total 8.036.431 ha oil palm plantations in Indonesia (Directorate General of Plantation, 2011). The average expansion of oil palm plantations between 2005 and 2010 has reached 516.523 ha per

year. This is far beyond the target of 350.000 ha/year as declared by Research and Development Agency of the Ministry of Agriculture (2005).

Figure 2. The comparison of smallholders (PR), government plantation (PBN) and Private plantation (PBS) Since 1970 (Directorate General of Plantation, 2011)



The reported total plantation size might differ from the actual total plantation size since many smallholder plantations are not registered with the District Agriculture Office. Based on the current regulation, smallholders who own a plantation size of less than 25 ha have no obligation to obtain a plantation permit, but need to register to the *Bupati* (Head of District). Interviewed smallholders in North Sumatra stated that they don't register their plantation because it has no direct advantage or benefit for their business.

The target of expanding the total plantation size has been able to be achieved as the GOI developed policies in support of oil palm plantation acceleration and revitalization, including providing more permits to concession holders as well as giving more loans in support of palm oil business. One of policies was the development of the Nucleus Smallholder Estate Partnership (NSE or Perkebunan Inti Rakyat/PIR), which aim to develop a local work force and local business opportunities, increase public welfare, and reduce social gaps of communities living around plantations. The nucleus estate partnership such as PIR Bun, PIR-Transmigration, and local PIR have been widely supported and developed since the 1980s (Manurung, 2001, Colchester *et.al.*, 2006). As a result, the oil palm plantations had spread out to 17 provinces in Indonesia in 2005 (R & D of Agriculture, 2005). By 2010 this number had increased to 22 provinces (Directorate General of Plantation, 2011).

On the other hand, the World Bank Group with its mission to combat poverty also regarded oil palm as important commodity for economic development and global food safety. In 1965 and 1976, The World Bank and International Finance Corporation (IFC) invested heavily in oil palm plantation development. One of the programs supported by the WB and implemented by the GOI was the oil palm growers-owners partnership approach (Teoh, 2010). This program was also supported by the Asian Development Bank and European Union (Colchester *et al.*, 2006).

With the average growth of 5 million ton per annum, the world's yearly demand for palm oil increases faster than any other vegetable oil. In 2009, the yearly production of palm oil was 50.3 million tons (CPO and KPO), while soybean oil was 35.9 million ton, rapeseed oil was 21.5 million ton, and sunflower oil was 13 million ton. Based on the productivity, palm oil produces vegetable oil up to 9 to 10 times more per hectare than soybean and therefore needs 9 to 10 times less land than soybean. The palm oil domination is therefore reinforced by its competitiveness compared to other vegetable oil products (Teoh, 2010).

The average productivity rate of oil palm plantations in Indonesia has reached 15 tons of fresh fruit bunch (FFB, Tandan Buah Segar/TBS) per ha per annum. However, several growers can reach 35 ton productivity of FFB/ha/year. The Ministry of Agriculture targets to achieve 40 million ton CPO in 2020 (Kompas, 25 Mei 2011). Even with the production per ha increasing, it still means that the oil palm industry will need more land (most probably from forest area) to achieve the target.

Both the contribution to economic development as well as deforestation of the palm oil can not be ignored. Deforestation and habitat loss due to the expansion of oil palm plantation are a major concern amongst environmental NGOs and both the GOI and the oil palm industry have been heavily criticized. The GOI and the oil palm industry often responded to these criticisms as being a slander campaign or even an effort from soybean and other vegetable oil producing countries. The increasing human-wildlife conflicts that occur in and around plantation areas is generally not regarded by GOI as an indication of ecosystem disturbance.

Another concern is the social conflicts between local community, palm oil companies, and the government. Land conflicts are mostly driven by the customary land tenure system in Indonesia. Conflicts include occupation of customary land by companies, occupation of state-owned forest by companies and communities, and plantation area encroachment by communities. Examples of such conflicts include the encroachment by 19 palm oil companies within a certain forest area (register 40) in Padang Lawas, North Sumatra (Tempo Interaktif, 14 April 2011), as well as encroachment in protected areas by companies and communities in

Gunung Leuser National Park and Karang Gading Wildlife Sanctuary (Suryadi, personal observation).

III. Regulation on Oil Palm Plantation in Indonesia

Act No.10/2004 regarding Procedures of Legislation Development states that legislation is a written regulation issued by an authorized state institution. Based on this act, a decision from the People General Assembly is a State Basic Rule (*staatsgrundgesetz*) and can therefore not be considered as part of the legislation (Soeprapto, 1998). This study therefore focuses on legislation as an act, government regulation, minister's regulation, and local government regulation.

Oil palm development in Indonesia is officially managed and supervised by the Directorate General of Plantation, Ministry of Agriculture. However, growers and mills must comply with various regulations, including plantation, agrarian, forest, environment, and spatial planning laws. This study focuses on five sectoral regulations that directly influence the development of oil palm plantation in Indonesia.

The regulations in the agriculture and plantation sector provide the norms, standards, procedures and criteria to develop oil palm plantations. The Agrarian laws provide the basic rule of a location permit as well as the procedure to acquire the land in APL. Regulations in the forestry sector regulate how to obtain a concession through forest conversion, conserve protected species and protection forest. Environmental laws provide regulations on environmental impact assessment (EIA/AMDAL), environmental management and control in and around plantations. Spatial planning regulations regulate land-use systems at national, province, and district level.

Prior to the reformation era (1998), the central government had issued several sectoral regulations related to oil palm which gave the authority to the local government to issue certain types of permits, provide recommendations, and collect retribution or regional tax. However, these regulations were not well supervised and created uncertainty regarding institutional responsibility. After the decentralization, the GOI adopted Act No.32/2004 regarding Local Government (replacing Act No.22/1999) and Government Regulation No.7/2008 regarding Deconcentration and Assistance. As the consequence of this power decentralization, the local government has gained more authority to manage the natural resources and environment within its territory in a sustainable way. The local government's effort to provide capable

human resources, appropriate infrastructure, implementable technical regulations, and good governance are critical factors to achieve these sustainable development goals.

A. Land Acquisition Phase

As a first step in the process of establishing an oil palm concession, a company needs to obtain a Location Permit from *Bupati/Walikota* (Head of District/Head of City). With the permit in hand, the company will identify the land, negotiate, and purchase it from the owner or propose forest relinquishment to Ministry of Forestry. High Conservation Value Assessment (for RSPO members only) and an Environmental Impact Assessment must be conducted prior to obtaining a Plantation Business Permit (plantation concession) from the Ministry of Agriculture and a Business Use Rights (HGU) from Province/District's National Land Agency.

Location Permit is an authorization for companies to obtain land allocated and requested for palm oil development. The Location Permit needs to be issued for land within APL and/or convertible production forest through certain mechanisms (see p. 22-24). The Location Permit is valid one year for land covering less than 25 ha, and 3 years for a land of more than 50 ha. For areas larger than 50 ha, a one year extension can be granted if the company has been able to acquire more than 50% of total land area allocated in location permit by the end of the three-year period (Article 5, PMNA No. 02/1999).

Palm oil business stakeholders often criticize the location permit validity (3 years + 1 year extension). Within 3 years, they should communicate their plan to local community, finalize the land acquisition, and conduct the EIA and other assessments, e.g. HCV, plantation business permit. If the land cannot be acquired, the location permit will be offered to another company. This short time frame often pushes the palm oil companies to use many ambiguous methods to obtain the land, resulting in potential future conflicts with community. Sawit Watch noted 240 cases of land conflicts in 2009 and 660 cases in 2010 as a result of the process to obtain land (Kompas, 5 January 2011).

PMNA No.02/1999 states that one company or holding company is allowed to obtain a concession up to 20,000 ha for one province or 100,000 ha throughout Indonesia, except for state-owned companies (BUMN, BUMD) or *public* company or majority state-shared ownership. The quota was established to avoid land ownership by single majority or several holding companies. In 2007, the Minister of Agriculture issued Regulation No.26/2007 regarding Guideline for Issuing Plantation Permit, deciding that the above quota is applicable for one company only without further referring to holding companies. This regulation opened the door

for holding companies who have several subsidiary companies to obtain more than the initial quota.

The local government is able to avoid negative socio-ecological impacts of oil palm plantations when they issue the Location Permit prudently based on the regional spatial planning map and the forestry map. If the local government and technical institutions don't develop and implement responsible and accountable policies to allocate areas for plantation, sustainable development at district level may not be achieved. District policy makers often have a tendency to want to increase local income by allowing larger-scale oil palm development without considering the environmental carrying capacity or ecological services in their region. If that is the case, biodiversity conservation and ecosystem services in their region may be neglected.

The process and procedures to obtain a Location Permit are vulnerable to corruption as there are no local regulations at kabupaten level which identify to costs to obtain a Location Permit. This vagueness regarding the costs to obtain a Location Permit has resulted in unhealthy competition to acquire land for plantations. According to one plantation manager, the unofficial cost to obtain a location permit varies between 50 to 500 millions rupiah depending on the size, accessibility and potential of the location as well as the demand. Due to these corruption practices, the Location Permit may be given without considering potential environmental and social impacts.

Land acquisition within a Location Permit can be carried out by purchasing, compensating, or any other agreed-method (Article 4, PMNA No. 02/1999). The company may directly purchase the land which has been registered to BPN or official land title as an evidence of land ownership. The company must request HGU title to BPN after settle down the purchasing agreement with the landowner. For the state-owned land, however, the company may directly request the HGU title to BPN. The progress to acquire the allocated land in Location Permit should be reported every three months to BPN. For the customary land's right (*hak ulayat*), company is requested by Act No.18/2004 (article 9) to meet customary landowners and have such an agreement prior acquiring the land by giving compensation or any other methods.

The most complicated issue under this scheme is that the adat community must have been recognized and acknowledged by the local government. Nation-wide criteria to identify and recognize adat communities are similarly regulated by the agrarian law, forestry law, and agriculture law. For example, the existence of customary (adat) law and its implementation, adat institution, and clear boundary of customary land (*hak ulayat*).

In the case of allocated land in location permit is located in forest area, then company must enter the process to get forest relinquishment or forest swap approval from Minister of Forestry. *Relinquishment Forest Area* is the change in status of forest area into non-forest area (APL). Forest swap is used to release forest area for non-forestry development purpose and replace it with APL. Guidelines to change the status and function of forest area are provided by Government Regulation No.10/2010 regarding Procedures to Change the Status and Function of Forest Area. Further technical regulations were provided by Minister of Forestry Regulation (Permenhut) No. P.32/2010, P.33/2010, and P.34/2010. Issues related to these regulations will be discussed in a later section of the report (p. 22-24).

Many oil palm companies develop plantations and/or cut the timber in forest area before having forest relinquishment permit from the Ministry of Forestry. To deal with this issue, the Minister of Forestry sent a letter regarding plantation business permit on 11 February 2005 (No.S.51/Menhut-VII/2005), requesting *Governors/Bupatis/Mayors* throughout Indonesia not to issue IUP in forest area and discontinue opening forested area without proper permission from the Ministry of Forestry. Unfortunately, due to lack of enforcement and supervision, the above regulations were/are not well respected. Ministry of Forestry declared that GOI has potentially lost of 31 trillion rupiahs due to illegal business activities in East Kalimantan (Tempo, 1 February 2011).

Timber Utilization Permit (IPK) is a license to exploit timber and/or non-timber forest products from released forest area, forest swap, production forest, and APL. Available timber in the released forest area can be used by the owner after having a permit from local government. Previously, based on Minister of Forestry Decree No.SK.382/Menhut-II/2004 regarding Timber Utilization Permit, IPK in APL was issued by the *bupati* after having obtained the principal approval from the governor. IPK in conversion forest was issued by the governor with the principal approval from the Director General of Forest Production. The above decree has been replaced by Minister of Forestry Regulation No. P.4/2011 regarding IPK. The IPK in APL is nowadays issued by the Head of District Forest Office, while IPK in converted forest is issued by Head of Provincial Forest Office.

As timber is regarded as an additional capital for the plantation company, the Location Permit is just a cover to obtain timber in many cases. Before 2010, it was obvious that many companies entered this scheme just to extract the timber, while neglecting the land. Many of these permits were returned or neglected after the timber was extracted. A lack of law enforcement has led to a situation in which these areas are idle, without having a clear concession holder. Many of these areas have been prone to destruction due to encroachment and/or illegal logging.

Looking at the above processes, biodiversity conservation and ecosystem services are not carefully considered to obtain a Location Permit, Land Acquisition and IPK, resulting into a loss of habitat and biodiversity.

Environmental Impact Assessment (AMDAL) or an Environmental Management and Monitoring document (UKL-UPL) must be conducted once the land is obtained. This is clearly regulated by Act No.18/2004 regarding Plantation and Act No.32/2009 regarding Environmental Management and Protection (replacing Act No.23/1997). It is necessary for each individual plantation company to implement the result and recommendation of AMDAL/UKL-UPL to prevent environmental damage and conserve a sustainable environment (Article 25, UU No.18/2004).

AMDAL/UKL-UPL documents are required by several regulations such as Act No.32/2009 (article 22-35), PP No.27/1999 (article 7), Act No. 18/2004 (article 25), and Permentan No.26/2007 (article 15). As noted in the Minister of Environment Regulation/Permen LH No.11/2006, a plantation with an area of more than 3000 ha is required to carry out AMDAL. UKL-UPL documents are sufficient for plantations with less than 3000 ha. Normatively, AMDAL/UKL-UPL are part of the feasibility study for a plantation company to obtain business permit. In reality, the AMDAL is treated more as a supplementary administrative formality, while the genuine business feasibility is based on technical and financial aspects. An AMDAL consultant confirmed the above by stating that the credibility of EIA is dubious, starting from the assessment, judgment, and supervision of the implementation.

The AMDAL is an in-depth study about the environmental impact and the importance of the planned business or activity for the environment. AMDAL consists of an environmental impact analysis (ANDAL), environmental management planning (RKL), and environmental monitoring planning (RPL). The environmental management effort (UKL) and environmental monitoring effort (UPL) are management and monitoring tools towards business and/or activities that are deemed not to have a significant impact to the environment.

To ensure the quality of AMDAL assessors, the Environmental Act No.32/2009 has requested assessors and AMDAL commission's member to be certified or licensed. Violation of the requested certificate may be prisoned for 1-3 years, or fined for 1-3 millions rupiahs. As a follow up, Minister of Environment has issued Ministerial Regulation No.7/2010 regarding certificate of competence for Amdal assessors to develop Amdal document. Every Amdal assessors must have certificate of competence since 3 October 2010. Hefni Effendy, Executive Secretary of PPLH-IPB (Environmental Research Center) highlighted that certificate of competence can only

be given to the assessors who has been trained or re-trained. Retrained is needed to ensure and update the knowledge and skill of assessors toward current environmental issues and methodologies (Antara News, 15 September 2010).

Despite of it, the major problem is on the supervision to implement AMDAL on site and the quality of Amdal assessors. Without having sufficient and skilful resources among authorities to supervise AMDAL implementation, then biodiversity conservation and environmental quality may be significantly declined.

Beside AMDAL and UKL-UPL, article 36-41 UU No.32/2009 also stipulates that a company needs to provide an Environment Permit as a requirement to obtain a plantation business permit. Currently, technical guidelines to issue the Environment Permit as a pre-requisite to issue the plantation business permit have not yet been stipulated and issued. The purpose of an environmental permit is to protect the natural environment and natural resources. However, this regulation will not have any impact when it is regarded merely as another administrative procedure in the process of establishing a plantation. The current capacity, capability, and integrity of human resources in local government, especially in technical offices who deal with environment and natural resource issues, is critically low and needs to be urgently improved.

For RSPO members, HCV assessment should also be carried out at this stage. A combination between AMDAL and HCV may generate comprehensive information on how to manage biodiversity conservation in and around plantations. In this case, identified local protection areas inside plantation area and its HCV management plan developed by HCV assessors may be combined with management and monitoring plan in the EIA document. By doing this, it is expected that AMDAL and HCV complement each other for the benefit of biodiversity conservation. Unfortunately, HCV assessment is not required by GOI and not fully covered by AMDAL.

Plantation Business Permit (IUP) regulated by Permentan No.26/2007 is a written permit from the local authority (governor, *bupati*/mayor) and obligatory for company to obtain. Companies who manage plantation area larger than 25 ha need to obtain the IUP after completing the AMDAL. Smallholder growers who posses less than 25 ha area are required to register their plantation to the *Bupati/Mayor* (STD-B). However, interviewed smallholders in North Sumatra refused to register their land because they found no advantage of being registered.

Fundamental constraint of Permentan No.26/2007 regarding the guidelines of plantation business permit is about allocation of total plantation area for one company that changed into 100,000. The guideline is different to PMNA No.02/1999, Permenhut No.P.31/2005, Permenhut

No.P.22/2009, and Permenhut No.P.33/2010 that provided the quota of 100,000 for one company or holding company throughout Indonesia. Possible implication of this Permentan is that one holding company can possess unlimited plantation area by establishing many subsidiary companies. There is no solution yet for the difference among the guideline. The revision is needed to carry out for Permentan No.26/2007 in accordance to agrarian and forestry regulations. Despite of it, mechanism to control quota remain unclear and enforcement to such quota does not exist.

Prioritizing biodiversity conservation during the preparation stage of establishing an oil palm plantation is a very critical point. Spatial planning and the forestry map are often not properly considered by local authorities. In some cases, such as in North Sumatra, allocation of non-forestry-use in provincial spatial planning is overlapped with forest area in forestry map. This has resulted in a situation where location permits are often issued without taking into consideration the environment and actual land status on the ground. The allocated land provided to a company in a Location Permit may occur in conservation forest, forest areas, or protection areas. There is little political will from local authorities to enforce the regulations when such violations have occurred and identified. The lack of enforcement stimulates further encroachment in conservation areas or other type of forest areas by communities and/or companies.

B. Plantation Development Phase

Subsequently to obtaining an IUP, a plantation company gets a 2 year-period to obtain an HGU concession (article 34, Permentan No.26/2007). The land can be acquired by purchasing from the land owner/private owner in APL or forest conversion as regulated under agrarian laws such as Government Regulation (PP) No.40/1996 and PP No.24/1997. The HGU is right to use state-owned land for plantation, agriculture, and fishery. It is granted for a maximum of 35 years and extendable up to 25 years. At the end of period, the land should be retransferred to the state or apply new HGU title.

Several cases were observed of HGU area overlapping with conservation forest, protected forest, and production forest (Tempo, 14 April 2011; interviewed respondent from government officer). The issue creates conflicts with the management units who manage those forest areas. Overlapping land between companies and private owned land or customary land also occurred, creating similar land conflicts.

Most of the cases originated from the fact that the private owned land or customary land have never been registered to BPN, whereby BPN regarded the land as state-owned land. The complexity of the conflict becomes even worse when a community also encroaches and occupies forest area around plantation or HCV area within a plantation area. It is the task of the district BPN officer to carefully assess the situation on the ground when the proposed HGU is close or adjacent to a conservation forest or protected forest. However, this is rarely the case. As an example, at least four companies around Gunung Leuser National Park overlap with the park, two companies overlap with Karang Gading Wildlife Sanctuary, and nearly 95% of Holiday Resort Nature Recreation Park are occupied by communities (personal observation; and based on interviewed government officers).

According to Ministry of Agriculture regulation on plantation (article 11, Permentan No.26/2007), an oil palm company must allocate minimum 20% of land of the total HGU area for the development of community plantations. This can be done under the Nucleus Smallholder Estate Partnership (NSE, or Perkebunan Inti Rakyat/PIR) through loans, grants, or revenue sharing. Though the regulation was supporting the establishment of NSE within the HGU, the legal interpretation of the law allowed for two options. Under the first option, the company develops plantation on the land of the community. Under the second option, the company uses the land within their HGU area.

Under both approaches, the community is required to establish a cooperative, which represents the community in dealing with the plantation management. Cooperative is defined as a business organization owned, controlled, and operated by a group of individuals for their mutual benefit. In the case of palm oil plantations, a cooperative member consist of community who own land and registered as a smallholder within NES partnership scheme.

According to an NSE participant, the company will facilitate the community to obtain a loan from local bank to develop the plantation. The company will use the loan for land clearing, planting, and maintaining the oil palm plantation before the harvesting period. The smallholders will start paying the loan after their oil palm start producing fruits. At the end of the loan, the smallholder will own the land on behalf of his/her name. In this case, bank may play their role to support biodiversity conservation by refusing to facilitate loan for establishing plantation in protection areas or HCV area.

One of the biggest issues with this scheme is that plantation companies often avoid their responsibility to develop plantations for local communities. Law enforcement regarding this regulation is very weak and has never been enforced. To deal with this challenge, the provincial government of Central Kalimantan has issued Governor Regulation No. 17/2011 regarding

Guidelines on Plantation Management Permit to ensure that companies carry out their responsibility in developing plantations for communities. The governor also instructed the *Bupatis*/Mayors in his province to carry out regular evaluations on the implementation of the plantation development for community (Kompas, 5 August 2011).

The community is expected to work on their own plantation (which is managed by the company) or on the company plantation to learn and improve their skills on how to maintain their plantation in the future. Community involvement in managing their oil palm plantation starts being beneficial once the company hands over the management to cooperative after the loan is settled. The engagement of communities in the NSE however varies from one site to another. Most of communities and cooperatives prefer to play a passive role and often prefer to receive the benefits from the company without any active involvement in the management of their plantations.

This engagement is a crucial issue because many communities living adjacent to plantations do not have the capacity to manage their own plantations. Productivity of community-owned oil palm is lower than in the nucleus area, with the ration 1:2, because of the community's lack of understanding and technical skills in managing their plantation. Since the production and related benefits of their plantations are so low, the communities often decide to sell their land to the people from the nearest city. This information was confirmed by notaries and plantation managers whom interviewed for this study.

IV. High Conservation Value Area

The rapid expansion of palm oil plantations in forest areas, conservation areas, and peat land has been heavily criticized by environmental NGOs. This criticism also resulted in pressuring the markets to purchase palm oil products from producers with a bad environmental track record and reputation. In 2010 Nestle, Cargill, Burger King, Unilever, and Kraft terminated their contract with the Sinar Mas Group. The GOI and GAPKI responded to the issue by accusing NGOs and the international community of conducting a slander campaign against the Indonesian palm oil business. The government believed the campaign was part of a trade war from palm oil commodity competitors i.e. soybean oil, sunflower oil, and rapeseed (Tempo Interaktif, 7 September 2010).

Oil palm plantations are so highly productive that it is impossible for other vegetable oil products to compete at the same level. Discontinuing the purchase of palm oil products would generate a vegetable oil crisis, as there is no other vegetable oil that can currently replace palm oil. Substituting other vegetable oil with palm oil will create more negative environmental

impacts, as other vegetable oil products are less productive per hectare than palm oil. To look for a win-win situation and bridge all interests, including economy, biodiversity, and ecosystem functions, the RSPO was established with the idea to develop a multi-stakeholder commitment regarding the production of sustainable palm oil.

All members of the RSPO agreed to implement Principles and Criteria of RSPO. During the 7th meeting of RSPO held in Jakarta, November 2010, all members committed to carry out HCV assessment prior to the preparation of the land and protect identified HCV areas. This point is stipulated in the RSPO New Planting Procedures since 2009 and should be implemented from January 2010.

The Executive Board of RSPO has emphasized that secondary forest and forested APL also have an important value for the environment and community livelihood. Both secondary forest and forested APL should according to RSPO be considered as High Conservation Value (HCV) area. RSPO standards underline that primary forest is not the only important aspect for biodiversity conservation.

Based on the guideline of HCV identification in Indonesia (HCV consortium revision toolkit Indonesia, 2008), there are at least six criteria and 13 sub-criteria of HCV. Those criteria are categorized into three groups: biodiversity (HCV 1, 2, and 3), environmental service (HCV 4), and socio-cultural (HCV 5 and 6). An area that possesses one or more HCV criteria can be categorized as HCV.

One of the challenges with HCV is that it has no legal basis in Indonesia. Indonesian regulations do not recognize HCV and do not include reference to HCV area nor the terminology. However, similar ideas and concepts as found back in HCV are embodied in various regulation sectors. HCV criteria 1, 3, and 4 are equivalent to the criteria of protection area in forest area and non-forest area. The criterion HCV 2 for landscape level is comparable to the strategic protected area at provincial and district level. In the table hereunder, a comparison is shown between HCV criteria and equivalent regulations under the Indonesian constitution.

Table 1. Indonesia National Interpretation of High Conservation Value Criteria

High Conservation Value Criteria	Indonesian Regulation
HCV 1. Area with important levels of biodiversity	
1.1. Area possesses or provides biodiversity supporting functions for protected area and/or conservation	Act No.5/1990, Act No.41/1999, Kepres No.32/1990
1.2. Critically endangered Species	Act No.5/1990
1.3. Viable population of protected, threatened or restricted species	Act No.5/1990

1.4. Temporary use habitat for a species or group of species	Act No.5/1990
HCV 2. Large natural landscape that important for ecological natural dynamic	
2.1. Intact landscape with capacity to maintain the process and ecological dynamics	Act No.32/2009
2.2 Areas or natural landscape containing two or more contiguous ecosystem	Act No.32/2009
2.3 Areas with representative populations of existing species.	Act No.32/2009, Act No.5/1990
HCV 3. Area with rare or Endangered species	
	Act No.32/2009, Act No.5/1990
HCV 4. Important environmental services of nature	
4.1 Area or important ecosystem as watershed or flood control for community living downstream	Act No.32/2009, Act No.5/1990, Act No.41/1999
4.2 Important area for erosion and sedimentation control	Kepres No.32/1990
4.3 Area that has function as natural structured barrier to prevent forest or land fire	
HCV 5. Natural ecosystems and basic needs of local communities	
HCV 6. Important areas for cultural identity of local communities	Kepres No.32/1990

Source: HCV revision consortium toolkit Indonesia, 2008.

One of the GOI regulations supporting HCV criteria is the Presidential Decree (Kepres) No.32/1990 regarding the Management of Protection Areas (*see* Annex 2). The decree defines *Protection Area* as an area that protect environmental functions, including natural resources, man-made resources, historical, and cultural values to support sustainable development. The definition is reduced by Act No.26/2006 regarding Spatial Planning into an area that protects only environmental functions of natural and man-made resources.

Protection area can be located in forest area and non-forest area. Protection areas in conservation forest and protection forest are designated by the central government according to forestry and conservation laws. Protection areas in non-forest areas are designated by provincial regulations (Perda) through spatial planning. Local protection area can also be declared by the land owner and acknowledged by local government.

Tabel 2. Group and Type of Protection Areas in Indonesia, compare to HCV Criteria

Protected Area Group	Type of Area	HCV Criteria
1. Area to protect downstream region	1. Protected Forest 2. Peat lands 3. Water Catchment area	HCV 1, 2, 3, 4
2. Local Protection Area	1. Coastal boundary 2. River boundary 3. Around reservoir/Lake 4. Around Water Source	HCV 4

3. Nature Reserve area and Cultural heritage	1. Nature reserve 2. Marine nature reserve 3. Mangrove coastal area 4. National park, Grand forest park, nature park 5. Cultural reserve and Science Education area	HCV 1, 2, 3, 4 HCV 6
4. Natural Disaster Vulnerable Area	Landslide, earthquake, volcanic eruption	
5. Other Protected Area	Game reserve, biosphere reserve, germplasm protection, wildlife sanctuary, coral reef	HCV 1, 2, 4

* Based on Act No. 26/2007, Act No.5/1990 and Presidential Decree No.32/1990

There are other similar and complementary criteria between HCV and protection area as mentioned in Kepres No.32/1990 and spatial plan laws. Those criteria have been regulated in sectoral regulations of environment, forestry, and plantation for safeguarding protection areas at the level of the management unit. Criteria under HCV 2 regarding conservation of landscapes can be found back in several land use and spatial planning laws, such as Act No.26/2007 and PP No.15/2010. In both regulations, provincial and district government are required to declare and establish provincial/district strategic area covering protection areas to support development.

The RSPO Principle and Criteria (P&C) regarding HCV are a positive initiative of a wide range of stakeholders that ensures sustainable oil palm development without jeopardizing environment, biodiversity, and socio-cultural background of communities in and around the plantation area. Assuming that HCV assessors and RSPO auditors work in a professional manner, this policy will encourage plantation companies to be responsible and manage their business in a sustainable manner. In the same time, the GOI should improve its policy to support the RSPO P&C through recognizing local protection area in management unit of a plantation as well as at the landscape level.

Many oil palm companies worry that HCV areas in their plantations can be categorized as idle land after the GOI issued PP No.11/2011 regarding Controlling and Optimizing Idle Land. Agrarian laws authorize the government to revoke the rights of concession holders if land is abandoned or the company fails to use in line with its allocation. Based on the Head of BPN Regulation No.4/2010, land is regarded idle if it is not being used as allocated to basic purposes of right entitlement. The concept of the agrarian law is to optimize the land in line with its economic, environmental, and social functions.

Although there is no regulation under the Indonesia constitution requiring companies to allocate HCV areas within HGU, there are normative regulations represented in environment

and forestry regulations to protect the natural environment and biodiversity. HGU holders are also required to have maximum and sustainable utilization for their land. To counter the confusion about idle land and active encroachment in HCV areas, plantation managers need to develop a series of interventions.

As a first step, HCV area managers must inform the location of HCV area within their plantation to the communities living around the plantation area, the forestry office and the environment office at district level. The Natural Resources Conservation Agency (*BKSDA*) and Indonesian Institute of Science (*LIPI*) should be well informed when protected species are found in the protection areas/HCV areas. BKSDA is assigned as management authority for protected species, while LIPI as scientific authority.

Plantation managers should also be able to demonstrate that the HCV area management within the plantation is part the sustainable plantation management. HCV area management plan should therefore be part of environmental management and monitoring plan document (RKL/RPL). The document can be used as evidence to prove that HCV area is intensively managed by the company.

However, another more important technical constraint that limits effective HCV area management is that plantation staff has limited understanding and capacity to manage HCV area. The company should collaborate with surrounding communities, academicians, NGOs, and forest ranger to manage HCV area. Generating social and political support from the early beginning for the HCV will reduce the future risk of encroachment in the HCV area as well as reduce the possibility of conflict.

Though often a serious concern of plantation holders, encroachment in HCV areas is generally a result of poor management. Various efforts as written in plantation management plan should be carried out to demonstrate the existence of HCV management. To protect the HCV from environmental degradation, a concession holder must ensure effective ground presence, including research and patrol in and adjacent to the HCV area. By doing so, encroachment can be detected and managed from an early stage. Encroachment, illegal occupation in and/or destruction of HCV area in a plantation area is a criminal offence. It is against article 21 of Act No.18/2004 with the maximum sentences 5 years in jail and maximum fine as much as five millions rupiah.

V. Forest Swap, Forest Relinquishment, and Moratorium

To address the increasing demand of palm oil derived products on the global market, as well as considering Indonesia's ambition as keep on being the largest world's palm oil producer, palm oil plantations in Indonesia will continue to expand. Besides using land with an APL status, Indonesian regulations also offer the possibility to use forest area for plantation through forest swap and forest relinquishment.

Forest area in Indonesia is categorized according to three basic functions: conservation forest, protected forest, and production forest. Regulations in the forestry sector provide the possibility to change the status and functions of forest areas i.e. forest swap, forest relinquishment, and forest function change (Act No.41/1999, PP No.10/2010). Further directions of Government Regulation (PP) No.10/2010 are comprised in 3 (three) Minister of Forestry regulations:

1. *Permenhut No. P.32/2010 regarding forest swap*

This regulation replaced all regulations at minister level concerning forest swap since 1995 (Kepmenhut No.292/1995). Forest swap is a mechanism to exchange Production Forest (*HP/Hutan Produksi*) and/or Limited Production Forest (*HPT/Hutan Produksi Terbatas*) area into non-forest area (APL) by swapping non-forest area into forest area. An oil palm plantation company is allowed to use forest swap mechanism to acquire land for its plantation. In provinces where the forest area constitutes less than 30% of the total size of the province, the area to be swapped should be doubled.

2. *Permenhut No. P.33/2010 regarding procedures of forest relinquishment in convertible production forest*

This law replaces all regulations at minister level concerning forest relinquishment since 1993 (Kepmenhut No.418/1993). Forest relinquishment is a mechanism to change the function of convertible production forest into non-forest area for non-forestry development such as oil palm plantation. This mechanism can only be carried out in provinces where the forest area is more than 30% of the total province size. A plantation company or holding company may propose forest release up to a maximum of 100,000 ha across Indonesia and 20,000 ha per province. This regulation excludes the provinces of Papua and West Papua, where the maximum size per province is 40,000. If a company only operates in these two provinces it can obtain a forest relinquishment of 200,000 ha. This could negatively influence biodiversity conservation in Papua.

The Permenhut No. P.33/2010 has been changed twice within ten months, by Permenhut No. P.17/2011 and No. P.44/2011. Those two revised regulations require plantation companies to build plantations for community within their proposed forest relinquishment. In term of administrative requirement, applicants should have a notary act (*Akta Notaris*) to prove that they are capable to develop plantation for community for at least 20% of the total forest area released.

The company is obliged to make a written statement of their commitment to establish plantation for communities within their concession. This is done in the form of a Notary Act as a prerequisite for the Minister of Forestry to issue the relinquishment decree. The company is allowed to manage the plantation on behalf of community under an agreement with the community, which is mostly using NSE partnership approach. Though this policy provides great opportunities for communities living near and adjacent to plantations to obtain benefit or compensation due to forest conversion, technical guidelines for the implementation and monitoring of this regulation have not been issued.

3. *Permenhut No. P.34/2010 regarding procedure on forest area function change*

This regulation replaced all regulations at minister level concerning this matter since 2001 (Kepmenhut No.70/2001). This regulation gives the authority to the provincial/district government to recommend forest area functions change within one unit or overall area. The changes can be applied through revision of the regional spatial planning. Following the recommendation of the governor, *bupati*, mayor, the status of conservation forest (*hutan konservasi*) can be changed into protection forest (*hutan lindung*) or production forest (*hutan produksi*), or vice versa.

This regulations also become the basis to change the status within conservation forest (e.g. nature reserve change into national park) and production forest (limited production forest change into convertible production forest). However, the status of forest area cannot be changed into convertible production forest (*hutan produksi yang dapat di konversi*) if the total forest area within the province is less than 30%.

As regulated in the above regulations, forest swap and forest relinquishment can be proposed by oil palm company to the Ministry of Forestry. However, once the local government proposed and agreed by Ministry of Forestry to change the status and function of forest area into convertible production forest, then soon or later, the area may become the object of forest swap or forest relinquishment.

One informant, a head of an oil palm plantation, expressed his preference for APL land because he could directly deal with the land owner. For a company to proceed with forest release or forest swap is more complicated, time consuming and cost-unpredictable. Yet, Manurung (2001), a forestry expert, stated that most companies would prefer to choose forest relinquishment because they can get benefit from the presence of timber in the forest through IPK.

Unfortunately, the Permenhut No.P.4/2011 regarding IPK, focuses only on the procedure to obtain a permit, timber value, forest resources provision (PSDH), and reforestation fund (DR), and does not include the required strict protection regulations such as found back in Act No.41/1999, article 50 point 3.3, which states that logging companies are prohibited to cut timber within a radius of:

1. 500 (five hundred) meters from the lake side;
2. 200 (two hundred) meters from the spring and river bank in the swamp;
3. 100 (one hundred) meters from river bank;
4. 50 (fifty) meters from tributary;
5. 2 (two) times the depth of ravine;
6. 130 (one hundred thirty) times the difference between highest and lowest tide in the beach.

Article 50 point 3.3. is mentioned in P.32/2010 (article 2 point 4) regarding forest swap. This regulation however, should be enforced by the local government and the plantation managers to preserve the protection area (*kawasan lindung*) and biodiversity in and around their plantation area. RSPO members who allocate and manage HCV area can also apply this clause to argue that their HCV area is part of their effort to comply with the regulations.

Ecosystem uniqueness, habitat, and biodiversity conservation are unfortunately not being used as indicators to determine whether an area can be released or swapped. The technical and administrative requirements to change the status of forest area lack norms, standards, procedures, and criteria to protect biodiversity. Instead they regulate matters related to the land, vegetation, area size, boundary, and permit.

The need to have an accurate forest map was recently highlighted by the head of UKP4 (Presidential taskforce), K. Mangkubroto, in his speech at the *International Conference on Forest Tenure, Governance, and Enterprise*, 12 July 2011 in Lombok. According to him, Indonesia has 133 million ha land, which could be categorized as forest and 57 million ha designated as APL. However, field observations have showed that 15 million ha of APL was forested, while there was 26 million ha degraded forest area with no vegetation. This

inaccuracy has driven the unsustainable utilization of forest resources, and also led to limited access to manage the land for optimum and best use (Mangkubroto, 2011).

A good example to portray the above situation comes from Riau province. Since the forest area in this province was determined in 1986, there have been 65 changes of forest functions and statuses. One of the issues is that the provincial government continues to use the 1986 forestry map as a reference. Another case involves a situation in Central Kalimantan, where 4 million ha forest area (25% of province total area) overlaps with HGU, of which around 3.1 million ha was granted local government permits (Mangkusubroto, 2011).

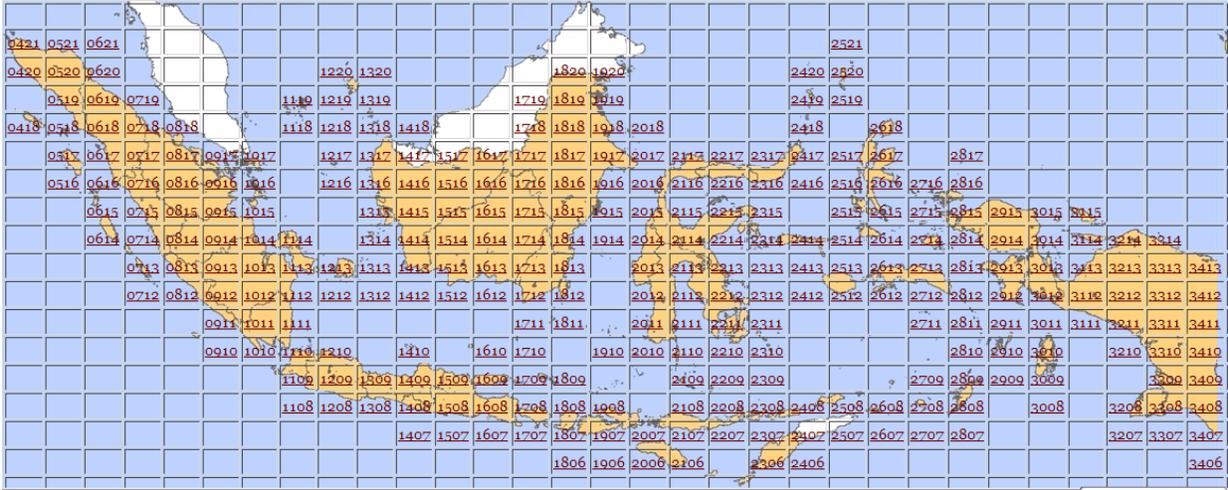
Under such conditions, the request to relinquish forest area for oil palm plantation is increasing rapidly. If forest maps and the management of forests are not immediately improved, the expansion of oil palms will destroy the remaining tropical rainforest in Indonesia. According to Secretary General of Ministry of Forestry, H. Daryanto, the need for land from forest area for HTI is about 500.000 ha/year with an investment rate about IDR 15 million/ha (\pm USD 1,764). The target of the Ministry of Agriculture is that CPO production should reach 40 million ha in 2020, and that the need of new areas will be 350.000-500.000 ha/year with an investment rate IDR 35 million/ha (\pm USD 4,117) (Infosawit, July 2011).

Continuing deforestation in Indonesia and other tropical countries has been claimed to be a major contribution to the increase of green house gases, which leads both to global climate change and the deteriorating of environmental services and functions. To respond to this crucial issue, the GOI has committed to reduce 26% of green house gas emission in 2020. This commitment is rightly followed by the issuance of the Presidential Instruction (*Inpres*) No.10/2011 regarding the suspension of new permits (including for oil palm plantations) and the improvement of natural primary forest and peat-lands governance.

This instruction is addressed to the Minister of Forestry, State Minister of Environment, Minister of Home Affairs, State Minister of Agraria/Head of National Land Agency, National Coordination Body for Spatial Planning (BNKT), National Coordination Agency for Survey and Mapping, Head of UKP4 and REDDS task force, governors, *bupati*, and mayor from all of Indonesia. There are three key instructions included: (1) to suspend new permits for location, business, forest utilization, forest area released, HGU/HP establishment for primary forest, peat lands, and APL; (2) to improve forestry governance; and (3) to develop an indicative map of primary forest and peat land which will become the baseline for suspending new plantation and other development permits. The map will be revised and updated every six months.

Currently, there are at least three maps (marine and forest area map, BPN land map, and spatial use planning map), which have been used by GOI as a reference in making policies regarding land development. Those three maps are incomparable, and therefore need to be integrated into one map applicable for all sectors (one map policy). The maps are expected to have strong baseline by applying up-to-date methods and techniques to identify the position and size of forest in the whole of Indonesia (Mangkusubroto, 2011).

As a follow up, Ministry of Forestry issued a Ministerial Decree No. SK.323/2011 regarding Indicative map for the suspension of new permits of forest use and APL. The total 291 maps with the scale ratio 1: 250,000 are provided and available on the internet. Here is the indicative map as part of the Ministry of Forestry Decree.



The issuance of *Inpres* No.10/2011 has received different responses from various sectors. Conservationists and environmentalists received it as a positive policy to improve the management of the Indonesian forest, although critics still underline that the decree does not include secondary forest, which also includes important biodiversity. On the other hand, the Secretary General of GAPKI considers the decree does not accommodate the interests from the palm oil business sector. The expansion of palm oil will be hampered due to the suspension of permits, including in forested APL (Tempo Interaktif, 20 Mei 2011).

A few months after *Inpres* No.10/2011 was issued, the Minister of Forestry released *Permenhut* No.P.62/2011 regarding guidelines for timber forest estate. According to this policy, rubber, coconut and oil palm, are classified as forest plants which can be used in timber forest estates. Fortunately, the regulation was withdrawn by *Permenhut* P.64/2011 a short time after due to heavy protests from environmental NGOs and forestry experts.

Under the *Inpres* No.10/2011, the Ministry of Environment received instructions to reduce emissions from avoided deforestation and conversion of forest and peat lands. This should happen through the improvement of governance in plantation development in forest and peat land, based on the indicative map used to suspend new permit. In the same time, this instruction is an opportunity for the Ministry of Environment to accelerate the Strategic Environmental Study (KLHS) and Environmental Management and Protection Plan (RPPLH). Based on Act No.32/2009 both documents (KLHS and RPPLH) are needed as a reference for regional spatial planning, and mid-term (RPJM) and long-term (RPJP) regional development plan.

The *Inpres* offers an opportunity for establishing a responsible and accountable natural resources management in Indonesia as well as improve the efforts to conserve the country's biodiversity. However, this *Inpres* will be meaningless if it is not followed up by implementable laws and policies. Consistent monitoring and law enforcement throughout every step of the implementation of the *Inpres* will be the key factor in guaranteeing the success of this national policy.

VI. ISPO and RSPO for Biodiversity Conservation

At the moment, RSPO has 610 members and 67 associate members, including 81 members from Indonesia. However, only 26 growers and 121 processors have produced 4.9 million ton certified CPO and 1.2 million ton KPO so far, which come from a total plantation area of 1.027.319 ha (www.rspo.org). Thirty five mills from Indonesia have contributed to those certified SPO. Despite their membership and the subsequent requirement to apply RSPO P&C, many oil palm companies still do expand their plantations through forest conversion. To address this problem, environmental NGOs took their cause to the customers, effecting global traders and buyers. Consequently, well-known companies such as Nestle, Kraft, Unilever, and Burger King suspended their relationship with and stopped buying from companies like Sinar Mas (Tempo Interaktif, 8 September 2010).

In order to protect its global stakes and interests in the palm oil industry, the GOI set up its own certification, named "Indonesia Sustainable Palm Oil Certification" (ISPO). In early 2010, the policy was translated into a Ministerial Regulation of Agriculture No.19/2011 regarding Guidance of Indonesia Sustainable Palm Oil. The Minister has promised transparency and wide involvement from different stakeholders to provide inputs for ISPO P & C. Despite this promise, an official document of ISPO P&C standards could not be found on the official website of ISPO at the time of writing this report (www.ispo-org.or.id).

The ministerial regulation defines ISPO as an oil palm industry which economically feasible, socially accepted, and environmentally friendly. All oil palm plantations in Indonesia are expected to abide by the ISPO P&C standards from 2012, and all plantation companies (growers and mills) will need to have been certified by the end of 2014. According to this regulation, RSPO members who have been certified by RSPO should be re-assessed to get an ISPO certificate, otherwise they will no longer comply with RSPO Principle 2 and Criteria 2.1, requesting RSPO member to comply with applicable laws and regulations.

The cost to obtain an ISPO certification remains unknown, but growers and mills expect it to be much cheaper than RSPO certification which is about USD 25/ha. Having two certification mechanisms for a similar company will be time consuming and costly. Knowing that P&C for both ISPO and RSPO are quite similar, the RSPO proposed to conduct join audit between RSPO and ISPO to reduce time and cost (Tempo Interaktif, 19 Mei 2011).

In the following table provides a comparison between the principles of ISPO and RSPO:

Table 3. Principles of ISPO and RSPO

ISPO 7 Principles and 25 Criteria	RSPO 8 Principles and 39 Criteria
Principle 1. Licensing and plantation management. 7 criteria	Principle. Commitment to transparency. 2 criteria
Principle 2. Implementation of guideline on agricultural practices and oil palm processing. 2 criteria	Principle 2. Compliance with applicable laws and regulations. 3 criteria
Principle 3. Environmental management and monitoring. 7 criteria	Principle 3. Commitment to long-term economic and financial viability. 1 criteria
Principle 4. Responsibility to workers. 5 criteria	Principle 4. Use of appropriate best practices by growers and millers. 8 criteria
Principle 5. Social and communities responsibility. 2 criteria	Principle 5. Environmental responsibility and conservation of natural resources and biodiversity. 6 criteria
Principle 6. Empowerment of communities' economic activities. 1 criteria	Principle 6. Responsible consideration of employees and of individuals and communities affected by growers and mills. 11 criteria
Principle 7. Sustainable business improvement.	Principle 7. Responsible development of new plantings. 7 criteria
	Principle 8. Commitment to continuous improvement in key areas of activity. 1 criteria

Sources: ISPO Document version 4 February 2011, RSPO P&C version October 2007

As presented in Table 3 and Annex 1, conservation and environmental issues are covered by ISPO Principle 2 and Principle 3, which are nearly identical with RSPO P&C Principle 2, 4, and 5. ISPO and RSPO are overlapping and complementing each other to support sustainable palm oil industries in Indonesia. While RSPO is based on voluntary engagement, the ISPO is mandatory and could therefore - if conducted in a transparent and professional manner - have a positive impact on maintaining biodiversity in Indonesia.

Because of voluntarily approach, RSPO apparently has no power to punish their members who violate RSPO P & C. International buyer, who also RSPO member, may respond it by suspending their purchasing contract to the particular company or groups. In reality, one holding company manages several subsidiary companies, but not all the subsidiary companies become a member of RSPO. Clean and clear methods should be employed to monitor supply chain to avoid certified palm oil from RSPO member mix with non-RPSO member within holding company.

On the hand, international buyer has no commitment to buy certified CPO/KPO with premium price. In 2008, premium price from buyer was US\$ 50/ton and dramatically decreased into US\$ 3,75/ton in November 2010. President of RSPO, Jan Kees Vis stated that RSPO cannot insist buyer to purchase palm oil with premium price, it depends on the market demand (Infosawit, December 2010). However, Dutch Taskforce Sustainable Palm Oil declared their commitment to start purchasing certified CSPO in 2015, without mentioning about premium price. If that is the case, various efforts from producers to implement RSPO P&C are apparently not aggressively followed by buyers to support sustainable palm oil.

The GOI has been promoting the ISPO in the EU and USA to ensure that there are no trading barriers on all. The GOI also promote the ISPO to major importer countries such China, India, and Pakistan. Although the P&C of ISPO and RSPO are relatively similar, the success of ISPO will highly depend on the acceptance of the scheme by importer countries, traders, processors, and consumers.

VII. Highlights and Recommendations

1. Permit related policies

a. Highlight/situation analysis

- In order to start an oil palm plantation, a company must obtain multiple permits from local and/or central government, as well as fulfill several administrative requirements, including Location Permit, Environmental Permit, Plantation Business Permit (IUP), HGU concession, and AMDAL/UKL-UPL.

- In convertible production forest, a company must obtain a forest relinquishment and/or forest swap as well as a Timber Utilization Permit. Allocated land in a given Location Permit sometimes overlaps with forest areas (*kawasan hutan*) and forested land in APL with high economic-valued timber. The Ministry of Forestry and Commission for Corruption Eradication (KPK) have recognized that many companies operate their plantations without having proper permits. This is mostly due to lack of supervision and law enforcement, lack of integrated and accurate land-use map, and money-driven local dynamics with minimal consideration to biodiversity conservation and environment.
- The Permentan No.26/2007 contradicts other forestry (P.33/2010) and agrarian (PMNA No.2/1999) regulations, especially in regard to the maximum quota of land one company can obtain (20,000 ha/province or 100,000 ha/nationwide).
- While Act No.18/2004 and Ministerial Regulation No.5/1999 (Minister of Agrarian Affairs) requests a company to provide a fair price/compensation to local communities/indigenous people/customary landowners, land acquisitions from customary land (*hak ulayat*) often create conflicts due to unfair compensation for the land.
- Both the quality and function of the AMDAL are considered very weak. The AMDAL currently serves more as an administrative pre-requisite to obtain a plantation concession rather than a guiding document that can help to limit negative environmental impacts and support biodiversity conservation on the ground.
- A new environmental regulation (Act No.32/2009) requires AMDAL assessors to obtain certificate of competency, and the AMDAL commission members to obtain license from Minister of Environment (national level) or Bupati/Mayor (local level).

b. Recommendation

- The Location Permit is an entry point to optimize existing land or to convert forested land. The permit should also be based on pro-environment policies at all sectors and levels of government to complement the current indicators used to issue the permit, i.e. pro-poor, pro-growth, and pro-job. The Ministry of Agriculture, Ministry of Forestry, and State Minister of Agrarian Affairs should evaluate their respective policies and produce a joint ministerial regulation to improve the current system in providing location permit in forested APL and convertible production forest.
- The local government should integrate approved spatial plan, integrated definitive map of forest area and forested APL, environmental strategic study (KLHS), and environmental management and protection plan (RPPLH) in the development of their Mid-term (RPJM) and Long-term Development Plans (RPJP).

- All existing regulations regarding spatial planning, agrarian affairs, plantation, forestry, and environment require policy makers to conduct consultation meetings with civil society when developing public policies, e.g. local government (Perda) regulation regarding spatial planning. The civil society should increase its role in the consultation meetings in order to ensure and control that the policies and documents are implementable, socially acceptable and environmentally friendly.
- The local government should be encouraged to develop clear and transparent standard procedures to issue particular permits and HGU concessions. The procedures should be publicly available on an official government website as well as posted in relevant government offices. Procedures should ensure that conservation forest (*hutan konservasi*) is not used for plantations as well as include monitor mechanisms for protection areas (*kawasan lindung*). A Precautionary Principle (*principle kehati-hatian*) should be employed by the responsible government officers when issuing a permit. In case of severe negative environmental impacts, the responsible government officers should face criminal/administrative sanctions. Furthermore, the procedures should include technical issues such as official costs, time, and processes. It is further recommended that districts which have an important oil palm industry establish an Integrated Service Office (*Kantor Pelayanan Terpadu*) to process oil palm plantation permits in a transparent, effective and efficient manner. The presence of such office will also help to minimize the direct contact between the company and the government officer who is in charge of issuing the permit.
- The Minister of Agriculture Regulation No.26/2007 should be revised and clearly mention the maximum plantation area for a company/holding company. Such revision will reduce the potential land conflicts as well as confusion with other regulations in agrarian and forestry laws. The revision should discourage oil palm expansion in the forest area (*kawasan hutan*) or forested land in APL where high biodiversity exists. At the same time, the monopolization of land by holding companies through subsidiary companies can be avoided. Furthermore, intensification in oil palm plantation to increase productivity should become a major policy and driver in oil palm plantation business.

2. High Conservation Value Area and Management

a. Highlight/situation analysis

- The rapid expansion of oil palm in Indonesia has been criticized by environmental NGO as a factor of deforestation. To reduce the negative impact of oil palm expansion, RSPO established sustainable oil palm Principle and Criteria to protect

and manage HCV areas, covering primary forest, secondary forest, peat land, and forested APL where high biodiversity exist.

- Unfortunately, HCV areas in many plantations are not connected with adjacent forests or other blocks of HCV. Consequently, the HCV area has become an island with an isolated population of wildlife, surrounded by oil palm plantations.
- In terms of terminology, HCV areas are not recognized under Indonesian regulations, however, the criteria of HCV are found back in several sectoral regulations such as in protection areas (*kawasan lindung*).

b. Recommendation

- The RSPO P&C and HCV Toolkit for National Interpretation should mention protection areas which are regulated by Indonesian Regulation as part of HCV area. A series of awareness campaigns should be developed by RSPO, RSPO members, and environmental NGOs to increase the knowledge of the local government regarding HCV and generate necessary political support for the management of HCV areas and sustainable palm oil production in general. RSPO and the buyers should also try to provide rewards for RSPO members who establish and manage HCV or protection areas through maintaining a premium price.
- Companies are recommended to establish HCV areas when they establish plantations for a community under NSE scheme. It is further highly recommended that the HCV areas are connected with the HCV areas within the nucleus plantation, and that they are managed by the company. The banks that facilitate loans for NSE should also pay attention to the conservation of biodiversity in HCV areas. The failure of NSE to allocate and conserve protection areas should be a major factor for the bank to decide to provide a loan.
- The assessment of biodiversity and HCV area should be combined with AMDAL since the results may complement each other. By doing so, the authority dealing with environmental issues may use it as a tool to supervise the implementation of AMDAL, which also support the protection of HCV areas.
- HGU concession is provided by the government for plantation, agriculture, and fisheries purposes. Land utilization for non-purpose activities is against the rule of agrarian law. Therefore, the involvement of BPN to support biodiversity conservation in APL is highly recommended. BPN can adopt principles and criteria of protection areas as a requirement to manage allocated land the HGU concession.
- Nature Conservation Agency (*BKSDA*) as a management authority and LIPI as scientific authority should be involved and informed to provide scientific and technical assistance in the management of an HCV area. Their assistance will also

improve the company's capacities to manage habitat and protected species in HCV area.

- The Ministry of Forestry, Ministry of Agriculture, State Ministry of Agrarian Affairs/Head of BPN, Ministry of Public Works and Ministry of Home Affairs should under the coordination of the State Minister of Environment develop better and more comprehensive guidelines in the form of regulations to conserve protection areas (*kawasan lindung*, which are relatively similar to HCV) in non-forest areas/APL. This may be done in the form of a Presidential Regulation or a Government Regulation.

3. Forest swap, forest relinquishment, and moratorium

a. Highlight/situation analysis

- There are two mechanisms to obtain land from forest area (*kawasan hutan*), which can be used by oil palm plantation companies: forest relinquishment and forest swap. Convertible production forest (*hutan produksi konversi-HPK*) is often targeted by plantation companies for expansion because of its additional economic value gained through the extraction of timber (IPK). Forest area (*kawasan hutan*) furthermore contains also very fertile soil, reducing significantly the cost of fertilizers. This expansion method poses a serious threat to the existence of biodiversity in the targeted plantation and surrounding forested areas. Both the AMDAL and HCV assessment constitute a crucial step to mitigate the impacts of this type of expansion.
- The recent moratorium (Inpres No.10/2011) to suspend all new permits regarding the use/utilization of primary forest, peatland, and forested APL is regarded as a key strategy to improve forest governance in Indonesia. This policy strongly supports the commitment of GOI to reduce 26% of green house gas emission in 2020.

b. Recommendation

- With minimal supervision and monitoring, the rapid expansion of oil palm plantations will significantly increase deforestation and biodiversity loss, as well as reduce the environmental services for people living in and around plantations. Therefore, the Ministry of Forestry and the Ministry of Agriculture should carefully monitor and evaluate the maximum quota of individual companies or holding companies at both provincial and national level.
- The Ministry of Agriculture should strongly push the palm oil industry to increase its productivity through intensification instead of expansion. Such vision will need a strong commitment from both government and private sectors. Stakeholders should invest more resources into research to produce higher yielding strains of oil palm.

The district government should be encouraged that future expansion of oil palm plantations within the district should be located within degraded forest area and/or degraded land.

- There should be one reference map produced by one single institution, in this case *Bakosurtanal* (National Coordinating Agency for Land Survey and Mapping). The map should become a national reference and be used by all government institutions and private sectors. The map should be updated at least once a year to accommodate forest status change and/or forest swap. Primary forest, secondary forest, peat land, forested APL, and degraded land will be identified and therefore, land-use policies for development of oil palm industry can be designed accordingly. The map will help to allow the expansion of oil palm in more suitable areas such as degraded land, whereas forested land with high biodiversity can be protected from further destruction.

4. ISPO & RSPO

a. Highlight/situation analysis

- Both RSPO and ISPO are standards to promote sustainable palm oil in Indonesia. Implementation of both standards may create additional cost for oil palm industries.
- Since ISPO is mandatory to all growers and mills, it will provide a great opportunity - if properly implemented - to produce sustainable palm oil while at the same time protection the biodiversity.

b. Recommendation

- RSPO Indonesia National Interpretation will be more useful and applicable if RSPO P&C are linked to particular regulations under the Indonesian law. For criteria which have not yet been regulated by Indonesian law, it is recommended that RSPO works together with other stakeholders to carry out more detailed legal analysis and develops consequent academic drafts of regulations to be submitted to the GOI.
- RSPO and international buyers should translate their appreciation for companies abiding by RSPO P&C by ensuring stable premium prices as well as increase the market capacity to absorb certified CPO/KPO.
- GAPKI (Indonesia Oil Palm Association) should increase its capacities to assist its members to comply with all national regulations, and at the same time be more proactive to recruit additional new members.
- The Ministry of Agriculture and Indonesian Sustainable Palm Oil Council should monitor whether they have the proper resources and capacities to run ISPO. To generate the trust from Indonesian and international stakeholders (producers,

- buyers, customers, etc.) they will need to establish and enforce a clean and transparent mechanism, with clear enforcement regulations.
- The Ministry of Agriculture should ensure that ISPO is not merely an administrative process without strong administrative and criminal sanctions for companies that violate ISPO P & C. The ISPO Commission that will be established by the Ministry of Agriculture will play very important role to operate and supervise ISPO implementation. The ISPO Commission should also include civil society, environmental organizations as well as scientists.

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Kompetensi Penyusun Analisis Mengenai Dampak Lingkungan Hidup. Permen Lingkungan Hidup No. 07 Tahun 2010.

Annex

Annex 1. Principles & Criteria of ISPO related to the biodiversity and Environmental issues

NO	PRINCIPLE/CRITERIA	INDICATOR	GUIDANCE	INDONESIA LEGAL SUPPORT and RSPO'S P & C
2.	Implementation of guideline on agronomical practices and oil palm processing			
2.1	Implementation of guideline on agronomical practices			
2.1.1	Land clearing	<ol style="list-style-type: none"> 1. Records of the methods of land clearing conducted by the company. 2. Records of land clearing in conformance with the company's SOP; 3. Records of land clearing respecting environmental sustainability, as well as minimizing erosion and soil degradation. 	<ol style="list-style-type: none"> a. Documentation on land clearing activities, for which the use of fire has been forbidden since 1999; b. Land clearing is conducted based on the results of AMDAL/RPL-RKL. c. Land with slopes of more than 40% are not allowed to be cleared; d. Development of drainage system, terracing, and cover crops to minimize erosion and soil degradation. 	<p>Comply with several regulations on environment, forestry, and plantation laws</p> <p>Similar to RSPO</p> <ul style="list-style-type: none"> • Criteria 2.1 • Criteria 4.1 • Criteria 4.3 • Criteria 5.1 • Criteria 5.5
2.1.2	Protection of water sources and quality	<ol style="list-style-type: none"> 1. Records of water management and maintenance of springs. 2. Monitoring program on the quality of surface water that is used by the communities living adjacent to the plantation. 3. Records of the use of water in palm oil mill. 	<ol style="list-style-type: none"> a. The company has to efficiently use the water and avoid contamination of waste in water discharge in order to ensure that there is no negative impact on other water users. b. The company has to avoid erosion on riparian zones. c. The company has to protect and conserve springs within their concession. 	<p>Comply with Environmental and Spatial Planning laws and Presidential Decree No.32/1990 regarding Protection Area</p> <p>Similar to RSPO:</p> <ul style="list-style-type: none"> • Criteria 4.4

2.1.6	<p>Control of pests, diseases and weeds</p> <p>Oil palm concession holder has to monitor and control pests, diseases and weeds in accordance with technical guidelines and considering on environmental aspects</p>	<ol style="list-style-type: none"> 1. Possess an SOP/working instruction on monitoring and control of pests, diseases and weeds; 2. Possess an SOP/working instruction on handling of pesticide waste. 3. Records of monitoring and control of pests, diseases and weeds 4. Records of type and use of pesticides and related agents. 	<p>SOP or working instruction on control of pests, diseases and weeds has to ensure the following:</p> <ol style="list-style-type: none"> a. Integrated pest management is used to control pests, diseases and weeds, namely through cultivation techniques, estate maintenance, use of natural enemies, mechanical uses, and limited and wise use of pesticides; b. Early Warning System (EWS) regarding pests/diseases/weeds; c. Chemical pesticides that are used have been registered with the Ministry of Agriculture Pesticide Committee; d. Management of pesticide waste is conducted in accordance with technical guidance to minimize negative impact on the environment. 	<p>Comply with Environmental, Cultivation, and Agricultural laws, and technical regulations from Ministry of Agriculture and Ministry of Environment</p> <p>Similar to RSPO</p> <ul style="list-style-type: none"> • Criteria 2.1 • Criteria 4.5 • Criteria 4.6. • Guidance of criteria 5.3; disposal of hazardous chemical and its container
2.2.4	<p>Waste management.</p> <p>Palm oil mill manager ensures that the waste is managed in accordance with applicable regulations.</p>	<ol style="list-style-type: none"> 1. Possess SOP/working instruction on waste management; 2. Records of measurement of quality of mill effluents; 3. Records of temporary storage of hazardous waste; 4. Records of the reports sent to authorities on monitoring and management of waste. 	<p>Procedure and technical guidance on waste management cover amongst others the following:</p> <ol style="list-style-type: none"> a. Measurement of quality of mill effluent at the outlet of Installation of Liquid Waste Management (<i>Instalasi Pengolahan Air Limbah</i>, IPAL), in accordance with the applicable regulation; b. Possess temporary storage place for storage of dangerous and hazardous wastes; c. Conduct efforts to increase carbon stocks 	<p>Comply with Environmental laws</p> <p>Similar to RSPO</p> <ul style="list-style-type: none"> • Criteria 5.3.

2.2.5	<p>Use of waste.</p> <p>Palm oil concession holder and mill manager have to utilize the waste to increase efficiency and reduce negative environmental impacts.</p>	<ol style="list-style-type: none"> 1. Possess SOP/working instruction on the utilization of waste. 2. Possess permit letter from authorized agency on the use of mill effluent for land application (LA) 3. Records of the use of palm oil mill waste are kept. 	<ol style="list-style-type: none"> a. Oil palm plantation and palm oil mill manager are able to utilize waste, including: <ol style="list-style-type: none"> 1) Use of solid waste such as fiber, shell and empty fruit bunches for fuel; 2) Use of empty fruit bunches as organic fertilizer; 3) Use of land application in accordance with applicable regulation. b. The storage of waste at the mill does not pose the risk of environmental contamination or fire risk. c. Possess calculations of emissions reduction if using fuel from biomass, compared to the use of fossil fuel. 	<p>Comply with environmental laws</p> <p>Similar to RSPO</p> <ul style="list-style-type: none"> • Guidance of criteria 5.3 • Criteria 4.2 • Criteria 5.4 • Criteria 5.6
3.	<p>Environmental management and monitoring</p>			
3.2	<p>The obligation to conduct environmental impact analysis such as AMDAL, UKL and UPL.</p> <p>Plantation concession holder should take the responsibility related to the environmental impact analysis AMDAL, UKL and UPL in accordance with existing regulations.</p>	<ol style="list-style-type: none"> 1. Possess an AMDAL document for oil palm plantation with area of $\geq 3,000$ ha. 2. Possess UKL/UPL documents for oil palm plantations area $< 3,000$ ha 3. Records of the implementation of AMDAL, UKL / UPL, including reports to the responsible authorities 	<ol style="list-style-type: none"> a. Oil palm concession holders are obligated to conduct AMDAL, UKL/UPL before establishing the plantation. b. Oil palm plantation which are operational are required to implement the AMDAL, UKL/UPL; c. Report the results of the monitoring and environmental management on a regular basis to relevant authorities. 	<p>Comply with environmental and plantation law, related to AMDAL</p> <p>Criterion 3.2 of ISPO similar to INA-NI, RSPO:</p> <ol style="list-style-type: none"> 1. Criterion 5.1, (Indicator Major 1 and Guidance) 2. Criterion 7.1 (Indicator Major 1, Minor 1, Guidance) 3. Criterion 5.1 (Guidance) 4. New Planting Procedure, NPP).

3.3	<p>Prevention and control of fire.</p> <p>Plantation managers should conduct fire prevention and control.</p>	<ol style="list-style-type: none"> 1. Possess technical guidelines for prevention and control of fire 2. Possess capable human resources to prevent and control fire. 3. Availability of facilities and infrastructure to control / prevent fires. 4. Availability of organization and emergency response system to fire. 5. Records of the implementation of prevention and fire controlling, fire monitoring in the form of reports which should be kept. 	<ol style="list-style-type: none"> a. To conduct fire prevention training on periodical basis. b. To perform fire monitoring and report the results regularly (min. every 6 months) to the the Governor, Regent/Mayor and relevant agencies. 	<p>Comply with environmental, agricultural, and forestry laws</p> <p>Similar to RSPO</p> <ol style="list-style-type: none"> 1. Criteria 5.5 2. Criteria 7.7. <p>ISPO does not specifically mention to avoid the use of fire on peat soils, while RSPO does.</p> <p>RSOP allows the use of fire where an assessment has demonstrated that it is the most effective and least environmentally damaging option for minimizing the risk of severe pest and disease outbreaks, and with evidence that fire-use is carefully controlled.</p>
3.4	<p>Biodiversity conservation.</p> <p>Plantation managers should maintain and preserve biodiversity in plantation concession (both in planted and unplanted areas).</p>	<ol style="list-style-type: none"> 1. Posses technical guidelines for the identification and protection of fauna and flora in the plantation. 2. Possess a list of protected flora and fauna species in and adjacent to plantation. 3. Records of socialization/awareness are documented. 	<ol style="list-style-type: none"> a. Plantation managers carry out socialization/awareness activities for communities about the importance of biodiversity and related conservation efforts. b. Collect data on protected flora and fauna species in and adjacent to plantation. c. Efforts of the company to conserve flora and fauna, among others by making posters, bill boards with warnings, etc 	<p>Comply with conservation law</p> <p>Similar to RSPO</p> <ol style="list-style-type: none"> 1. Criteria 5.1 (Guidance) 2. Criteria 5.2 3. Criteria 7.3 (Guidance) <p>RSPO adopts HCV concept for criteria 3.4, and 3.5</p>

3.5	<p>Identification and protection of protection area.</p> <p>Plantation concession holder should identify protection areas which have as main function to protect the environmental sustainability, including natural and man-made resources, historical and culture values, and should not be opened for oil palm activities.</p>	<ol style="list-style-type: none"> 1. Possess the result of the identification of protection area 2. Possess map of plantation showing location of protection areas. 3. Records of identification and socialization/awareness building of protection areas. 	<ol style="list-style-type: none"> a. Undertake inventory of protection areas around the plantation. b. Socialization of protection areas to employees and the communities/farmers around plantations. 	<p>Similar to RSPO</p> <ol style="list-style-type: none"> 1. Criteria 5.1 (Guidance) 2. Criteria 5.2 3. Criteria 7.3 (Guidance)
3.6	<p>Mitigation of Greenhouse Gas Emissions (GHG)</p> <p>Plantation concession holder must identify the sources of GHG emissions.</p>	<ol style="list-style-type: none"> 1. SOP / technical guidance on mitigating GHG emissions; 2. Possess records of the stages of the transfer of the land function (land use trajectory). 3. Possess records of the effort to reduce GHG emissions. 4. Records of mitigation efforts are maintained. 	<ol style="list-style-type: none"> 1. Conduct identification of sources of GHG emissions. 2. Socialization/awareness building on the efforts to reduce GHG emissions (methane trapping, water table management in peat land, fertilizer management, etc.) and how to conduct calculations. 3. Use solid waste (fiber, shell, etc.) for boiler, and conduct an analysis about the efficiency of the use of fossil fuels. 	<p>Comply with environmental law</p> <p>Similar to RSPO:</p> <ol style="list-style-type: none"> 1. Criteria 5.6. <p>Note:</p> <ol style="list-style-type: none"> 1. The Guidance of Criteria 3.7 of ISPO mentions identification of emission source, efforts to reduce GHG emissions and using of solid waste for renewable energy source.
3.7	<p>Conservation of area with high potential of erosion.</p> <p>Plantation concession holder should conserve the land and prevent erosion in accordance with existing</p>	<ol style="list-style-type: none"> 1. Possess procedures / technical guidelines to conserve areas with high potential of erosion including riparian zones. 2. Possess plantations and topographic maps showing location of the river in the plantation. 	<p>Procedures / technical guidelines for conservation of riparian zones should consider:</p> <ol style="list-style-type: none"> a. Areas with high erosion potential such as riparian area which have not been planted by oil palm. b. Plant species which mitigate erosion 	<p>Comply with environmental law and conservation law</p> <p>Similar to RSPO</p> <ol style="list-style-type: none"> 1. Criteria 4.3 (Guidance) 2. Criteria 4.4 3. Criteria 7.2 (Guidance)

regulations.	3. Records of the management of conservation areas with high potential on erosion	in riparian zones if these plants are not yet available. c. If the riparian zones have been planted with oil palm which has fruits (> 4 years), there is a need to rehabilitate the area when replanting oil palm trees.	4. Criteria 7.4
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Source: ISPO Team, Ministry of Agriculture (2010), this study based on ISPO Document version 4 February 2011

Annex 2. Groups and types of protection areas in Indonesia

GROUP AND TYPE	OBJECTIVE	CRITERIA	HCV Criteria
I. Downstream Protection area Area			
5. Protected Forest Area	To avoid erosion, flood, sedimentation, and maintain hydrological functions of land in order to guarantee the availability of soil nutrients, groundwater, and surface water.	a. Forest area with slope area, type of land, and rainfall factors which exceed a score of 175, and/or b. Forest area that possess 40% or more slope area , and/or c. Forest area located 2.000 meters above sea level.	Forest area
2. Peat Lands	To control hydrology of areas that function as water buffer and flood prevention, as well as protect unique ecosystems within that area.	Peat land with a thickness of 3 meters or more, located in upstream areas or swamps.	HCV 2 HCV 3 HCV 4
3. Water Catchment Area	To provide sufficient space for rain water catchment within specific area in order to supply ground water needs and flood prevention in downstream areas.	High rainfall, structural land that easily absorbs water, and also geomorphology formations that are able to absorb rain water on large scale.	HCV 4
II. Local Protection Area			
1. Coastal Boundary	To protect coastal areas from the disturbing activities which impact the preservation of coastal functions.	Area alongside the shoreline with a width proportional to the formation and physical conditions of the coastline, consisting of minimum 100 meters inland from the point	HCV 4

		<p>c. An area as a place for life of specific migrant animals</p> <p>Criteria of Tourism Forest Park:</p> <p>a. An area with interesting and magnificent natural beauty or man-made features;</p> <p>b. Fulfill the needs of humans for recreation and sports and is located adjacent to residential settlements;</p> <p>c. Includes game that provides the possibility for breeding to allow regulated hunting with focus on recreation, sport, and wildlife conservation;</p> <p>d. Constitutes a sufficiently large and non-risk area.</p> <p>Criteria of Protected Germplasm area:</p> <p>a. An area that possesses a type of certain germplasm which doesn't exist within a conservation area;</p> <p>b. Constitutes a wildlife relocation area that becomes their new refuge;</p> <p>c. Possesses a sufficiently large and non-risk area.</p> <p>d. Constitutes a sufficiently large and non-risk area.</p> <p>Criteria of Wildlife Refuge Area:</p> <p>a. The designated area constitutes an area where wildlife has originally been found.</p> <p>b. Constitutes a sufficiently large area that allows the possibility for life support and breeding.</p>	<p>HCV 4</p> <p>HCV 1</p> <p>HCV 1, HCV2</p>
2. Marine Nature Reserve and others	To protect biota diversity, ecosystem types, natural phenomenon and natural uniqueness for the importance of germplasm maintenance, tourism and scientific needs.	Marine, river, lake, coastal area, estuary, coral formation, and/or area with unique ecosystem	Mandatory HCV 2 HCV 3

3. Mangrove Area	To protect mangrove forest as a foundation of the mangrove ecosystem and habitat for various marines life, as well as to support coastal protection and prevent abrasion, and protect future cultivation efforts.	At minimum of 130 times of the annual average between the highest and lowest tide, measured from point of the lowest tide from the beach	HCV 2 HCV 3
4. National Park, grand forest park, nature recreation park	To support the development of education, recreation, and tourism, as well improve the quality of the surrounding environment and protection from pollution	Forested area or with permanent vegetation which encompasses a variety of flora and fauna species, constitutes a good natural refuge, and possesses good access for tourism needs.	Conservation Forest area
5. Cultural Heritage and Research Area for Science	To protect national heritage of cultural, historic and archeological monuments, national monuments, and geological diversity formations from extinction due to nature or human activities, in order to support the development of science.	The area and surroundings of buildings with high cultural value, prehistoric sites and areas with specific geological formations which have a high use for scientific development	HCV 6
IV. Vulnerable Natural Disaster Area	To protect human being and activities from natural disaster or as a consequence of human activities.	Identified areas where often natural disasters occur or have a high potential for natural disasters, i.e. volcanic eruption, earthquake and landslide	

Sources; Act No.5/1990, Act No.26/2007, Government Regulation No. 15/2010, Ministerial Regulation of Environment No.11/2006, Presidential Decree No. 32/1990

Annex 3. List of interviewed respondent

1. Bambang Hermanto, Notary. Muara Enim, South Sumatra
2. Hamid Damanik, smallholder, North Sumatra
3. Panut H, environmental NGO, North Sumatra
4. Fitri, BKSDA North Sumatra, Medan
5. Edward Sembiring, BKSDA North Sumatra
6. Subhan, Gunung Leuser National Park
7. PT KSI Management team, West Sumatra (name can't be mentioned)
8. Oil Palm Factory Manager, North Sumatra (name can't be mentioned)

9. Conservation manager in Oil Palm Company, Kalimantan (name can't be mentioned)
10. Bayu H. Researcher of BPPT, Jakarta
11. Sahat Simarmata, Ministry of Agriculture, Jakarta
12. Darmarius, Ministry of Environment, Jakarta
13. Ery Kurniawan, journalist, Jakarta
14. Yustinus, journalist, Jakarta
15. Wiratno, Ministry of Forestry, Jakarta
16. F. Simbolon, smallholder in Sei Lengan, North Sumatra
17. Binur, smallholder in Langkat, North Sumatra
18. Keleng, forest ranger of Gunung Leuser National Park, North Sumatra
19. Darmanto, researcher Unesco, Padang
20. Norman J, environmental NGO, Bogor
21. Head of Planning Agency in Solok Selatan District, West Sumatra
22. Staff of Planning Agency in Solok Selatan District, West Sumatra
23. Staff of Environmental Office in Solok Selatan District
24. Y.Priyadi, AMDAL Consultant, Jakarta