

Roundtable on Sustainable Palm Oil

New Planting Procedure

Summary Report of Assessments

PT. Ladang Sawit Mas

Nanga Tayap District,

Ketapang Regency, West Kalimantan Province

Indonesia

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Summary Report of EIA and HCV Assessments and Social Impact Assessment PT Ladang Sawit Mas, Ketapang Regency, West Kalimantan Province

1. Executive Summary

PT Ladang Sawit Mas (PT LSM) which is located in Nanga Tayap District, Ketapang Regency, West Kalimantan Province, is one of the Oil Palm plantations companies that has adopted the sustainable palm oil practices based on the Roundtable on Sustainable Palm Oil (RSPO) New Planting Procedures (NPP) using the Guidance Document approved in September 2009 by the Executive Board and which was enforced on 1 January 2010. As part of a sustainable palm oil management system, PT LSM has conducted the Environment Impact Assessment (EIA/AMDAL), High Conservation Value (HCV) identification and Social Impact Assessment (SIA). The HCV and SIA assessment had been conducted from 27 April – 3 May 2013 by Sonokeling Akreditasi Nusantara (SAN), an independent and accredited consultant; the key consultants conducting these assessments are approved by the RSPO (refer to **Table 5**. The name of team members Assessor and its approval status).

The Consent License based on the Plantation Business Permit (or called Izin Usaha Perkebunan) No. 420 year 2010 was approved on 28 July 2010 for an area of ± 6,450 ha.

The Environmental Impact Assessment (EIA/AMDAL) was approved by the Governor of West Kalimantan (Surat Kelayakan Lingkungan Number 49/BLHD/2010) on 27 January 2010. On top of fulfilling the regulatory requirements of conducting EIA/AMDAL, the combination of AMDAL together with HCV and SIA provides the geographical information of the area, the biodiversity and natural resources, the required best management practices and therefore provides the management with the platform on which the management plans for new planting will be based on.

The results of the HCV assessment by independent consultants from Sonokeling Akreditasi Nusantara and team personnel that have been approved by RSPO showed that there is no primary forest in the Plantation Business Permit (IUP) of PT LSM. The land cover in PT LSM dominated by secondary forest by 50.49% and Palm oil by 49.51%. Later, detailed groundtruthing conducted by SAN for Land Use Change Analysis showed that the land covers using Landsat September 2012: secondary forest 41.18%, shrubs 31.18%, open land 23.91%, and community farming 0.68%.

The vegetation cover is dominated by the rubber (*Hevea brasiliensis*), agroforestry, shrub and swamp. Based on The Report of Semi Detail Soil Survey Assessment by the Research Department of PT BGA, indicated that peatland was found in the Permitted Area (Location Permit/ Izin Lokasi).

The key elements for HCV 1 (1.2, 1.3 and 1.4), HCV 2 (2.3), HCV 4 (4.1), HCV 5 are areas for habitat which has representative populations of natural species at the riparian belt and secondary forest. HCV 4 is related to the potential damage to the riparian belt. HCV 6 is related to the old and population grave. The results of the Social Impact Assessments (SIA) has shown that the company's development of oil palm plantation and palm oil mill has both significant and positive impacts toward the local livelihood and the society's social sustainability. The findings have

defined how the company's business can influence the key issues in the respective component of the social sustainability of the local community. There are three basic components for the society's social sustainability that influences the planning of the company's future operation.

2. Scope of EIA, SIA and HCV Assessment

2.1. Organizational information / contact person

General Data of the Company

Company Name	: PT Ladang Sawit Mas
Deed of Establishment	: Indah Prastiti Extensia, SH. No : 12 dated on 30 May 2005
Capital Status	: Foreign Investment (Penanaman Modal Asing, PMA)
Taxpayer Notification Number	: 02.389.119.5-061.000
Company Address	: BGA Office, Melawai Street No 10, South Jakarta 12160
Type of Business	: Oil Palm Plantation & Processing
Status of Concession Land	: Permitted Area (Izin Lokasi) Number 415 year 2009 dated 09 November 2009 size ± 8,300 Ha. Plantation Business Permit (Izin Usaha Perkebunan) No. 420 year 2010 dated 28 July 2010, size 6,450 Ha.
Contact Person	: Francisca Damanik
Geographical Location	: 110°23'47" – 110°21'53" E dan 1°24'50" – 1°35'26" S See Picture 1, Picture 2, Picture 3 and Picture 4
Surrounding Entities	: North : Bordering the PT Sawit Mitra Abadi South : Bordering the PT Agro Lestari Mandiri West : Bordering the Kawasan Hutan Lindung Gunung Tarak dan Hutan Produksi East : Bordering the Tanah Merah Hamlet, Nanga Tayap District

The scope of the EIA/AMDAL and High Conservation Value Assessment of PT LSM shows the local social entities within the Permitted Area with area 8,300 ha. It is also expanded into villages and other areas which are considered important to the proposed surrounding plantation area.

Figure 1. Location of PT Ladang Sawit Mas in Indonesia



Figure 2. Location of PT Ladang Sawit Mas in Kalimantan island

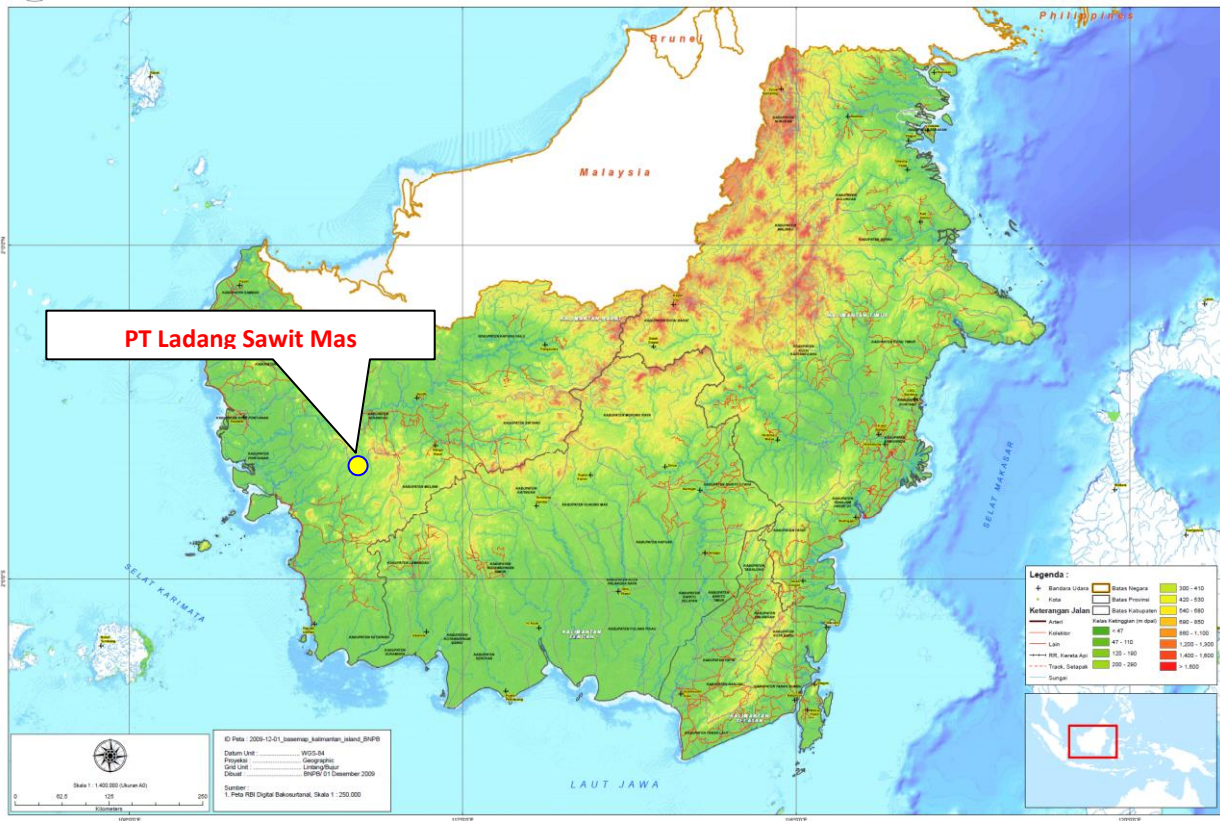
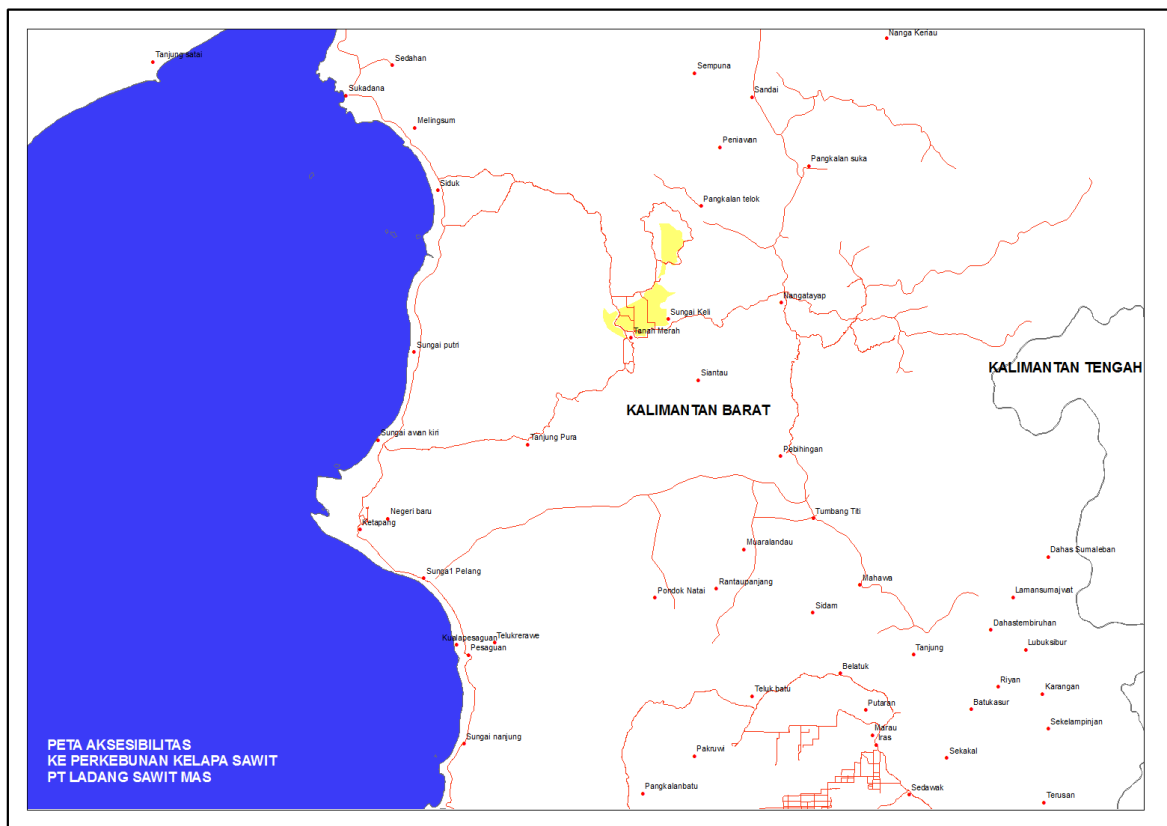


Figure 3. Location of PT Ladang Sawit Mas in Ketapang Regency



2.2. List of legal documents, regulatory permits and property deeds

The permits that have been obtained by the company are inclusive of Consent License (Izin Prinsip), Permitted Area (Ijin Lokasi), Environmental Impact Assessment (AMDAL) and Environmental Permit (Izin Kelayakan Lingkungan and Izin Lingkungan) and the Plantation Business Permit (Izin Usaha Perkebunan). The followings are the list of the licenses and recommendations :

Table 1. Types of permits and licenses recommendation PT Ladang Sawit Mas

No	Licenses and recommendations	Issued by	Number	Note
1.	Deed of Establishment	Indah Prastiti Exptensia, SH	12	Registered 30-05-2005
2.	Tax Registration Code Number	Directorate General of Taxes, Ministry of Finance	02.389.119.5-061.000	
3.	Provisioning Land	Regent of Ketapang (Bupati Ketapang)	525/504/IV-Bapedalpembda	Registered 27-10-2005
4.	Permitted Area (Izin Lokasi)	Regent of Ketapang (Bupati Ketapang)	- 172 year 2006 - 422 year 2008 - 416 year 2009 (size ± 8,300 Ha)	Registered - 14-06-2006 - 11-11-2008 - 09-11-2009
5.	Plantation Business Permit (Izin Usaha Perkebunan)	Regent of Ketapang (Bupati Ketapang)	No. 420 year 2010 (size ± 6,450 Ha)	Registered 28-07-2010
6.	Environmental Permit (Izin Kelayakan Lingkungan)	- Governor of West Kalimantan (Gubernur Kalimantan Barat)	- No. 49/BLHD/2010 size ± 8,300 Ha	- Registered 27-01-10

2.3. Area and time-plan for new plantings

LSM did the HCV Assessment at April – May 2013. LMS then cleared the land according to the draft indicative map of HCV that have been prepared by SAN. The area of land has been cleared up to the HCV boundary. The LSM Final Report (August 2012 – September 2013) is 4,599.13 Ha, inclusive of plasma. The proposed new planting area by PT LSM is in the location of the Plantation Business Permit (Izin Usaha Perkebunan) which the owners of the land have received the FPIC (free, prior and informed consent).

Table 2 The summary of area statements and time-plan for new planting Ladang Sawit Mas

Potential Land (ha)	Year Planting (ha)					total
	2012		2013	2014	2015	
	Before Takeover	After Takeover				
5,261	568.34	1,540.66	2,566	73.70	240	4,988.7

3. Assessment Process and Procedures

3.1 Environment Impact Assessment

The Environment Impact Assessment of PT LSM was carried out by PT Widya Cipta Buana Consultant, with address at Komp. Rukan Metro, Jl. Venus Barat Kav- 15, Margahayu Raya, Bandung (Telephone No: +62 22 7568445, Fax +62 22 7509172)

The key consultants conducting these assessments are accredited with the Competency certificate which was approved by The National Association Of Professional Consultants Of Indonesia:

Table 3. Person and Expertise EIA Team Assessor in PT Ladang Sawit Mas

Team composition	Name	Specification	Competence certificate
Team Leader	Aji Ali Akbar, S.Hut., M.Si.	Environment Management	Team Leader (AMDAL B)
Sub Team Geo - Physic – Chemist	Kiki Prio Utomo, ST., M.Sc.	Environment Technic	Member
	Arifin, ST., M.Eng., Sc.	Environment Technic	Member
Sub Team Biology	Naveri, S.Hut.	Forestry	Member
	Aji Ali Akbar, S.hut., M.Si.	Environment Management	AMDAL B
Sub Team Social culture-community health	Herlan, S.Sos., M.Si.	Sociology	Member
	Galuh Bayuardi, S.Sos., M.Si.	Anthropology and demography	Member
Sub Team Public Health	dr. M. Ibnu Kahtan	doctor	Member

Assessment Methods (data sources, collection, dates, program, and visited places)

The data collection process was strongly associated with the type of data that collected. In generally, studies will be conducted based on primary data and secondary data. Primary data obtained through observation, measurement and field interviews, and secondary data obtained from the literature collected, either from the company, or directly from related institutions in the study of this areal. The methods that were used to collect the data adjusted with components that can be studied. The data used must be accurate and reliable so that it could be use to analyze, measure and observe the environmental components which were predicted, would be affected, and components of the action plan which was predicted to give significant impacts to the surrounding environment. The data were collected was as follow :

- Physic – Chemist Components (Climate, Air Quality and Hydrology, and Soil).
- Biological Components (Vegetation, Animals, and Water Biota).
- Socio-Economic Culture Components (Demography/ Population, Social, Economic, Social and Cultural).
- Environmental Health and Public Health Components (Environmental sanitation, public health level, level of public health services).

Methods of Significant Impact Estimation

Determination of the significant impact to the environment caused by the development activities of the plantation and the palm oil mill is only intended as an attempt to estimate the large and important environmental quality changes that are caused by the plantation development activities and the palm oil mills of PT LSM in the Nanga Tayap district, Ketapang Regency. Method of significant impact estimation is by differentiating the magnitude impact and significant impacts.

A. Estimation on the Magnitude of Impact

Magnitude Impact are measured from the environmental quality changes. On estimates of changes in environmental quality are used formal and informal methods.

1. Formal Methods

Formal methods are used to estimate the impact of parameters which the system characteristics can be identified or estimated by using the approach of environmental threshold at national and regional levels.

2. Non Formal Methods

Non-formal method is a method that is based on the professional judgment of experts, logical frame analysis and analogy. This method is use to estimate the environmental parameters which characteristics system finds difficult to identify or estimated by modeling approach such as models, socio-cultural systems.

To simplify estimates of magnitude Impact from changes in quality of the matrix filling, then used the approach of environmental quality assessment scale. Level of environmental quality assessment scale using a scale of 1-5. Based on these figures assessment, environmental quality differentiated as: excellent (5), good (4), fairly good (3), bad (2), and very poor (1).

B. Determination of Important Impact Characteristics

Assessment of the important impact characteristics were in accordance to BAPEDAL decision Number: KEP-056 of 1994 on Guidelines Regarding Significant Impacts size. Meanwhile, in relation to the impact evaluation conducted by Important Impact scaling into two categories: important and less important. Characteristics Impact divided into two groups, negative impacts and positive impacts. It will be regarded as negative if the changes/ impact estimated is get adverse towards the environmental, and it is positive if the changes/ impact estimated giving beneficial to the environment.

C. Methods of Important Impact Evaluation

The Important Impact evaluation explore "holistic causative" against expected environmental components that is affected. For this purpose the supporting tools used is such as interactions matrix. Interactions matrix between activity components and environmental component contain magnitude of Impact and Importance of Impact. This Important Impact evaluation will conduct careful and thorough study to the primary impact (positive / negative) and secondary impacts (positive / negative), and also other derivative impacts on the environment component and activities component.

The study of the important source impact and hypothetical impact can identify the key issues that needs to be managed. Results of the Important impact evaluation are also expected to assist the decision making process in the selection of a viable alternative plan that takes into consideration of the environmental aspects of the proposed area.

3.2 SIA (Social Impact Assessment)

The Social Impact Assessment of PT LSM was carried out by SAN which is located at: Komplek Sari Inten Number. 44 RT 02/RW 09, Ciomas Rahayu, Ciomas, Bogor - West Java, 16610 Telephone. 0251-7521685.

The key consultants conducting these assessments have been accredited and approved by the RSPO. The team members are:

Table 4. Person and Expertise SIA Team Assessor in PT Ladang Sawit Mas

No.	Expert Name	Expertise/Position
1	Kresno Dwi Santosa	Economic Social & Culture
2	Dr. Ir. Tutut Sunarminto, M.Si.	Economic Social & Culture

Assessment Methods (data sources, collection, dates, program, and visited places)

Social Impact Assessment (SIA) on the ground was carried out as bellows :

Method of Executing the Study

The approach framework for SIA was by learning the present existing condition in PT LSM, particularly the socio-economic condition, socio-economic impact of the company toward the surrounding of the community, and the community’s perception. Based on the existing condition, preparation and compilation were made with SIA document and social management plan which contain activities that should be carried out in order to create ideal condition (desirable condition).

Multidimensional characteristic of development interventions is urgently needed to identify the potential economic and social impact. The impact of population growth and globalization may have adverse social effects in the form of increased poverty and declining living standards. SIA can be defined by efforts to assess or estimate, the social consequences of the presence of development activities. Social Impact Assessment is a process that provides a framework to prioritize, collect, analyze, and incorporate the information into the design and make recommendations. SIA study to ensure that recommendations being given are: (i) information that emphasizes social issues that are relevant, and (ii) incorporate strategies that involve the participation of various stakeholders. Social Assessment (SA), on the other hand, is a process that provides a framework for prioritizing, gathering, analyzing and incorporating social information and participation in the design and implementation of activities (Rietbergen - McCracken and Narayan 1998).

The method used in the study of social impact assessment (SIA) is the method qualitative collection techniques and data gathering refers to the direction in rapid rural assessment (RRA), which combines in-depth interviews, focus group discussions (FGD) and observation. To enrich the data, also conducted a secondary data collection, combined with the use of simple quantitative methods to collect data through questionnaires. To ensure the validity of the information, then the principle of triangulation (data source compound) as well as the saturation of data (no more changes in the data collected) used in this study (Denzin and Lincoln, 2000).

At analytical level, thematic analysis is used in accordance with what is suggested by Miles and Huberman (1994). Basic theme that being used based on the issues found in preliminary studies and in the field observation. The more informant /stakeholders who confirm an issue, then the theme importance will be increasing. In addition to the thematic, descriptive analysis was also carried out to strengthen the analysis argument.

The findings obtained from the methods above were analyzed. The baseline of the analysis was based on RSPO criteria which is relevant to sustainable social aspects. The recommendations also covered other issues which were not required in the RSPO criteria, in the form of ideas or aspirations as the result of the field analysis.

3.3 HCV Assessment

The key consultants conducting these assessments have been accredited and approved by RSPO. The team members are:

Table 5. The name of team members Assessor and its approval status

No.	Expert Name	Expertise/Position	Status
1	Ir. Kresno Dwi Santosa, M.Si	Team Leader Socio Economic and Culture Expert	Approved by RSPO
2	Dr. Ir. Rachmad Hermawan, M.Sc.F	Environmental Services Expert	Approved by RSPO
3	Kasuma Wijaya, S.Hut, M.Si	GIS Expert	
4	Ir. Sad Hasto Agus Suprpto	Biodiversity (Flora) Expet	Approved by RSPO
5	Ainurrahman, Amd	Biodiversity (Flora) Assistant Expert	
6	Berry Lirra Rafiu, S.Hut	Environment Services Assistant Expert	
7	Syafruddin, SP, M.Si.	Socio Economic and Culture Expert	
8	Ahdi Muhtadin, S.Hut.	GIS Assistant	

Assessment Methods (Data sources, data collection, dates, program, and visited places)

Implementation Method

Date and Location

Identification and analysis of the HCV was carried out in the area of PT LSM at Ketapang District, Ketapang Regency and West Kalimantan Province. The identification and analysis was held on 27 April – 3 May 2013.

Materials and Equipments

Materials used in the identification and analysis include are: AMDAL document, digital elevation model map, landsat image map, land system map/RePProt, indonesia topographical map (Rupa Bumi Indonesia map), forest land use map (TGHK), hydrology map, unit management administration map, IUCN red list of threatened species, The CITES Appendices, Government Regulation of Indoneisa Number 7 1999 (PP 7 1999) and materials that used in field survey are Guidance Book on Bird Life in Java, Bali, Sumatera and Kalimantan, a Field Guide to Mammals of Borneo, Payne et al., 1985, published by WWF Malaysia, Kuala Lumpur, Questioners and tally sheet.

Tools used are GPS, compass, clinometers, camera, and binoculars.

Approach

There are 2 (two) factors that determine the success in maintaining and increasing HCV in the area of PT LSM, namely (1) the availabilities of identification and analysis of documents on the existence of HCV since this will be use as reference in preparing management and monitoring plans, and (2) management documents and monitoring plans for the identified high conservation value area (HCVA) which will be used as a reference in the management and monitoring of HCVA.

The success in the implementation of identification and analysis activities of HCV existing in the area of PT LSM is determined by 2 (two) factors, namely: (1) the availabilities of adequate data and updated secondary and primary data, and (2) proper and systematic documentation of activities in

stages. The availabilities of updated and reasonably sufficient data and information are greatly dependent on the activities of field surveys which were carried out systematically, adequately and well planned. In order to conduct a field survey plan as expected, the reviews on the available documents/reports and maps and initial identification of HCV had to be done. Precise and systematic stages of activities to enhance the success of the identification and analysis of the existing HCV included field surveys, data processing, data analysis and synthesis, identification of HCV, analysis of HCV existence, and mapping.

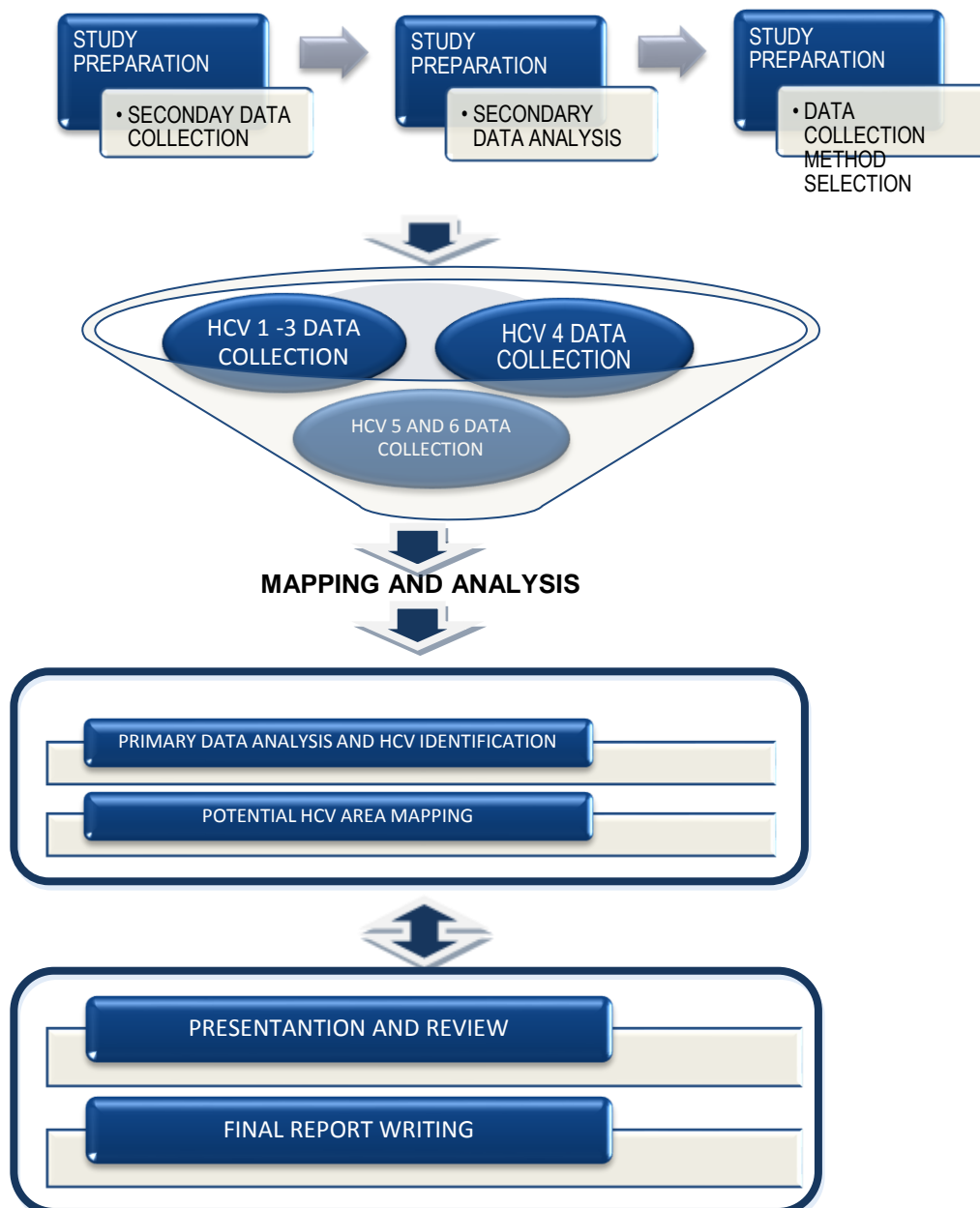


Figure 4. Approach in The Identification and Analysis of HCVs

HCV Identifying Methods

The assessment covers the Plantation Business Permit for 6,450 ha, which has been approved as the company's project area. Assessments also expanded into villages and other areas which was to be considered on its of relevance of importance to the proposed plantation area. The field survey was conducted on 27 April – 3 May 2013.

In the process, each observation team was accompanied by the field staff from the company and local representatives who are familiar with the site. Besides field activities, the team also collected information from the local people through individualistic interviews, Focus Group Discussion (FGD), as well as public consultations (the list of stakeholders in the participative process is included in **Appendix 1**). At the same time, confirmation and cross checking of the findings were carried out with the local people using the technique of purposive sampling – which included the socialites and the related interest parties.

The understanding and scope of HCV for the oil palm plantation sector refers to the HCVF definitions which apply to the forestry sector. The Identification of High Conservation Value in Indonesia was developed by the *Konsorsium Revisi HCV Toolkit Indonesia* (2008) - the toolkit for the revision HCV consortium. Other references used were IUCN, CITES, and other guidelines as well as the relevant laws and regulation of Indonesia (See **Appendix 2**).

4. Summary of Assessment Findings

4.1. Environment Impact Assessment

The development of oil palm plantation and palm oil mill of PT LSM in the Ketapang District, Ketapang Regency raises awareness of the environmental impact on the physical-chemical, biological, and social, economic, cultural and local public health, both positive and negative impacts. In the implementation of plantations development and palm oil mill of PT LSM, one aspect of which is the main consideration is the preservation of the environment, to ensure sustainable development.

The EIA study of the plantations activity and palm oil mill of is a single EIA activities / projects. The scoping study of the area boundary for Environmental Impact Assessment (EIA) of Oil Palm Plantation activities consider four (4) factors, namely: limit project / activity, ecological boundaries, social boundaries and administrative boundaries.

Plantation activities and palm oil mill was predicted to impact the environment, so it needs to be explored in depth including the four phases of activities: Pre-Construction Phase, Construction Phase, Operational Phase and Post-Operational Phase.

Magnitude and importance of the impact that needed attention in the study of EIA Plantation and Palm Oil Mill of PT LSM at pre-construction phase, is a change in attitudes and perceptions and containing social unrest. At this phase the identified activities to be explored is the socialization and boundary demarcation and land acquisition.

Magnitude and importance of the impact that needed attention in the construction phase is a decrease in air quality and noise levels, decrease in the quality of surface water, land and forest fire potential, decreased in the diversity of flora and fauna species diversity decreased, increase in jobs and business opportunities, increase in incomes, changes in attitudes and perceptions as well as the decrease in public health. At this stage of identified activities could be the mobilization of heavy equipment, manpower recruitment, land clearing, construction of facilities and infrastructure, seeding and planting, maintenance of immature plants, factory construction and waste water treatment plant, construction of water channels and roads.

Magnitude and importance of the impact that needed attention at the operational phase is the reduction of air quality and increased in noise level, increased job and business opportunities, increase incomes, changing attitudes and perceptions, decreased levels of public health in the study area. At this stage the identified activities could be nursery, FFB harvesting and transport, mobilization of heavy equipment and maintenance of oil palm trees.

Magnitude and importance of the impacts that needed attention at the post operation phase is the reduction of air quality and increased in noise level, decrease of local income, changing attitudes and perceptions, and community unrest. At this phase the identified activities could be labor dismissals, demobilization of heavy equipment, reforestation and revegetation, and also land handover to government and community.

Changes in some aspects of the environment (abiotic, biotic, social, economic, cultural and public health) in District Cempaga Hulu, Kotawaringin Regency, due to these activities require further tightening in the utilization of available natural resources and optimizing the management and monitoring efforts which needed to be integrated into all components of the integrated business.

Magnitude and importance of the impacts that will be managed and monitored in the Environmental Management Plan and Environmental Monitoring Plan based on the results of the impact evaluation are: 1) Physical-chemical environment components include air quality, surface water quality, and forest fires potential; 2) Social culture and public health components including : social unrest, job and business opportunities, perceptions, local revenue and public health level.

Environmental management of the environmental components that are experiencing fundamental changes, both positive and negative as a effect of the Oil Palm Development plan of PT LSM to be carried out in terms of the three approaches, are: technological, socio-economic-cultural and institutional.

The implementation of environmental monitoring carried out by PT LSM. The environmental monitoring reports will be submitted annually to the technical adviser of the government agencies

4.2. Social Impact Assessment

Demography and Village Density around PT LSM

Nanga Tayap District data in 2012 showed that the population around PT. LSM Oil palm plantation Area as much as 8,877 people (Sungai Kelik Village, Simpang Tiga Sembelangaan Village and Pangkalan Telok Village), with the population density in each village in the following table.

Village	Area (Km ²)	Population	Density (people/km ²)
Sungai Kelik Village	160.18	3,670	22
Simpang Tiga Sembelangaan Village	148.12	1,788	12
Pangkalan Telok Village	165.55	2,869	17

The number of people in a particular region or community will raise the cost of environmental health, which will implicate on the quality of health of each individual in the community.

CONCLUSIONS AND RECOMMENDATIONS

When SIA studie carried on , some CSR programs have been considered to be implemented, for examples open and fixing of village roads, preservation of local indigenous culture and commemuration of religious day. It is to build a good corporate image and positives partnership with communities around the plantations.

In general, PT LSM oil palm plantation development plan in Nanga Tayap district in Ketapang regency has some social issues in the community which will be the basis of social sustainability for the people around the plantation. The conclusions of this social impact assessment are as follows:

No	Activity	Social Issues
	External Issues	
1	Infrastructure	<ul style="list-style-type: none"> • Opening of the road network has revived economic activity and improved the mobility of the people • The condition of the road between the village and inter-village with the company is still a soil (hard ground) which in the dry season roads can be dusty and respiratory disease carrying vectors.
2	Partnership	<ul style="list-style-type: none"> • Raised the public welfare around the palm oil plantation • Distrust of the company if the partnership is not immediatly realized plasma appropriately • Condition of public welfare remains low giving rise to a variety of potential social unrest, including increased crime
3	Social economic	<ul style="list-style-type: none"> • Open access to economic resources and new jobs for the community in the area of oil palm plantations • reduce illegal logging business potency • provide opportunity and certainty for the community to get cash money • Opening of new jobs with the certainty of cash acquired weaken society to keep rubber and restrict farming activities. Consequently of basic needs of foodstuffs should be purchased. It reduces self-sufficiency society and potential to food shortages • Slow and vague information and the promotion mechanism of labor status raises anxiety in workers, both KHL and KHT of rural communities around oil palm plantations

4	Demography	<ul style="list-style-type: none"> • The company leads of public awareness to ensure the administrative boundaries between villages • High population mobility and openness of access from the outside open new alternatives for the company in meeting the needs of the workforce • Land ownership claims between villages / hamlets which are not completely resolved can lead to strain and conflict between communities around the plantation area • Assumption and negative accusations against the company's role in triggering the strain between communities in the process of fulfilling employee from outside the area to give an attitude of resistance and social conflicts between communities and the company <ul style="list-style-type: none"> • villages, socialization problems become a dominant issue
5	Socio-Cultural and Religious	<p>Most people from Segagap Hamlet and Betenung Village are already involved in a partnership scheme and some people of the Nanga Tayap Village are company employee</p>
6	Environment and Public Health	<ul style="list-style-type: none"> • Health services that will be granted by the company which raises the motivation of people to have a healthy life and give easy access for the villagers to health care • Orangutan management issues where appropriate, can enhance the positive image of companies that are environmentally friendly and supporting conservation. But also can give a negative image of company if not done properly, especially from conservation agencies at the local, national, or international level • If there is no education of healthy lifestyle and help improve community environmental sanitation conditions, the disease can occur arise in the community and give a negative image of the company as it may be that the society considers the incidence of disease caused by the activity of the company

	Internal	
7	Employee Recruitment System	<ul style="list-style-type: none"> • Employee recruitment of oil palm plantations can eliminate poverty and backwardness of human resources, particularly residents of the area around the plantation to improve the welfare of people so that there is a change in the lifestyle of the people • KHL recruitment system is very easy and there is no specific provision so that potential of excess labor in the company and the company increased expenses whereas immature plant. KHT recruitment system is only enjoyed by a small group of community, as only performed on people who are familiar with the people and still impressed prioritize the recruitment system of kinship • Gap absorption of more labor-migrants come from and better positions relatively more enjoyed by outsider employees
8	Aspects of Protection, Development and Labour Welfare Improvement	<ul style="list-style-type: none"> • Provision of infrastructure and facilities protection, development and improvement of labor welfare can increase employee motivation in the work. • Development of human resources through education or training can improve employee qualifications either cognitive, affective and psychomotor employees. • Can have negative impacts that may increase the potential hazard which can cause health problems and safety, hazards can be physical, chemical, and psychological ergonomics. • Weak implementation of policies or rules may lead to the use of PPE waiver rules en masse by employees and can give birth customs and culture of discipline is not working
9	Industrial Relationship	<ul style="list-style-type: none"> • The weak bargaining position of workers in the company raises pessimistic attitudes, discomfort and if it accumulates with policies that do not conform to the expectations of workers could lead to a vertical conflict between companies and workers. • Confusion worker to convey the aspirations, complaint in fear raises apathy and lethargy in the work that is characterized by an attitude of

		<p>"defaulters" work or pretend to be sick and if accumulated with the company's lack of attention to the rights of workers, it can encourage a mass strike and protests lead to conflict and its disadvantage</p>
10	Competency Development	<ul style="list-style-type: none"> • workers can improve the performance, which in turn increases the income of the increase in performance is achieved and have the opportunity to achieve a better career because it has better competence • Traditional law is still held strongly by the community. Therefore, in every village they have leaders or elders they call Demung Adat. The role of Demung Adat is to lead and coordinate the events and rituals ceremonies / traditions of the local community
11	Career Path	<ul style="list-style-type: none"> • Strengthen the management structure and human resources. • Employee motivation, because a promising career path. • The unclear time limit status change of workers from the KHL into KHT or monthly raises social jealousy attitude and gap positions which could trigger conflicts between workers and protests. • Incompatibility between education level and career path that offered by the company led to pessimism and apathy, moreover could bring the strikes and mass mobility move the work to another company
12	Employee Welfare Benefits	<ul style="list-style-type: none"> • Employee welfare benefits that the company provides, fosters employee motivation. • Employee welfare benefits raises awareness of workers for saving life, marked by changes better life and could saving money • Employee welfare benefits provided by the company has sparked envy or jealousy among workers both KHL, KHT and Monthly. Jealousy is triggered because of the understanding that workers can not receive the difference amount of employee welfare benefits. • The difference of employee welfare benefits can cause a decrease in employee motivation

13	Communication patterns	<ul style="list-style-type: none"> • Submission of various provisions applicable to the elaboration and implementation can be carried out effectively and efficiently in accordance with that specified by the management company • Workers can not accept a closed and feudal communication system, so there is a step down when there is dissatisfaction experienced. • Workers can not provide positive feedback for the company in many ways despite having knowledge of the matter

4.3. HCV Assessments

Physical

Climatic conditions in the Nanga Tayap District are similar to other tropical areas where condition are classified into rainy and dry seasons. Generally, the rainy season occurs between October to March, while the dry season occurs between April and September. The duration of both of this season fluctuate, at times with longer dry season or a longer rainy season.

The physiography shows a land surface that can be a factor in the process of soil formation, giving effect to the development of land. Based on the slope map, most of the land are flat (0-5%).

The Plantation areas and the Processing Plant of PT LSM are located in an area with a height of 22-85 m above sea level (asl). The important factors in soil formation are the parent material because it influences the physical and chemical structures of the soil. Almost all of the entire studied area is dominated by 4 land class system: Ranganbakau cover an area of 77.83% of total area, Honja covers an area of 14.05% of total area, Mendawai covers an area of 5.79% of total area and Sebangau covers an area 2.32% of total area.

The working area of PT LSM includes Pawan River watershed. The rivers that crossed the area are as many as 13 rivers and creeks. Drainage patterns in the area of PT LSM is dominated by one river, the Tanah Merah. Use of rivers by the community is not still intensive for use.

Biological

Flora

There are 154 species found in the area of PT LSM, Based on the plant class, plant species found in the working area of PT LSM can be categorized based on the habitat, the composition of vegetation in the area can be differentiated into the 5 (five) kinds of shrubs, palms, lianas, herbs and trees.

There are 5 (five) of the flora named above are in the “protected” species under PP. 7 / 1999 namely: *Bulbophyllum spp.*, *Nepenthes gracilis*, *Nepenthes mirabilis*, *Shorea lepidota* and *Shorea stenoptera*. The assessment identified 6 plant species that are included in the List of the IUCN Red List (2 species is EN / Endangered, 2 species CR/ Critical Endangered and 2 species VU / Vulnerable) and 3 species that are included in CITES Appendixs II with the details as presented in **Table Table 8.**

Table 8. List of Plant Species Found in the Area of PT. LSM Based on Their Status

No	Local Name	Scientific Name	Family	Conservation Status		
				IUCN	CITES	PP NO. 7
1	Akar ampelas	<i>Ficus ampelas</i>	Moraceae	-	-	-
2	Akar cinceret	<i>Physalis minima</i>	Solanaceae	-	-	-
3	Akar kait	<i>Uncaria glabrata</i>	Rubiaceae	-	-	-
4	Akar angkor	<i>Tetracera akara</i>	Dilleniaceae	-	-	-
5	Alang-alang	<i>Imperata cylindrica</i>	Poaceae	-	-	-
6	Anggrek	<i>Bulbophyllum spp</i>	Orchidaceae	-	-	√
7	Arang-arang	<i>Diospyros durionoides</i>	Ebenaceae	-	-	-
8	Are	<i>Ficus sp.</i>	Moraceae	-	-	-
9	Asam Kandis	<i>Garcinia xanthochymus</i>	Clusiaceae	-	-	-
10	Bambu	<i>Bambusa vulgaris</i>	Poaceae	-	-	-
11	Baninten	<i>Polyalthia lateriflora</i>	Annonaceae	-	-	-
12	Bayan	<i>Crudia gracilis</i>	Fabaceae	-	-	-
13	Bayur	<i>Pterospermum diversifolium</i>	Sterculiaceae	-	-	-
14	Bebati	<i>Eugenia zeylanica</i>	Myrtaceae	-	-	-
15	Bedaru	<i>Cantleya corniculata</i>	Icacinaceae	-	-	-
16	Bekayang	<i>Quercus sp.</i>	Fagaceae	-	-	-
17	Bekepal	<i>Syzygium sp.</i>	Myrtaceae	-	-	-
18	Belaban paya	<i>Vitex pubescens</i>	Verbenaceae	-	-	-
19	Belantik	<i>Croton laevifolius</i>	Euphorbiaceae	-	-	-
20	Belian air	<i>Palaquium obovatum</i>	Sapotaceae	-	-	-
21	Bengkepas	<i>Vatica oblongifolia</i>	Dipterocarpaceae	VU	-	-
22	Beringin	<i>Ficus benjamina</i>	Moraceae	-	-	-
23	Betebung	<i>Dactylocladus stenostachys</i>	Crypteroniaceae	-	-	-
24	Bintangur	<i>Calophyllum grandiflorum</i>	Clusiaceae	-	-	-
25	Bunut	<i>Calophyllum macrocarpum</i>	Clusiaceae	-	-	-
26	Butut/butun darat	<i>Barringtonia racemosa</i>	Lecythidaceae	-	-	-
27	Cempedak	<i>Artocarpus champeden</i>	Moraceae	-	-	-
28	Cempedak Air	<i>Artocarpus integer</i>	Moraceae	-	-	-
29	Cengkeh hutan	<i>Eugenia aromatica</i>	Myrtaceae	-	-	-
30	Dara-dara	<i>Vitis discolor</i>	Vitaceae	-	-	-
31	Durian	<i>Durio zibethinus</i>	Bombacaceae	-	-	-
32	Durian burung	<i>Durio carenatus</i>	Bombacaceae	-	-	-
33	Ganis	<i>Uncaria gambir</i>	Rubiaceae	-	-	-
34	Garung	<i>Urandra corniculata</i>	Icacinaceae	-	-	-
35	Gerunggang	<i>Cratoxylum cuneatum</i>	Clusiaceae	-	-	-
36	Getah merah	<i>Myristica iners</i>	Myristicaceae	-	-	-
37	Harendong	<i>Melastoma malabathricum</i>	Melastomataceae	-	-	-
38	Idat	<i>Cratoxylum glaucum</i>	Hypericaceae	-	-	-

39	Jambu Monyet	<i>Anacardium occidentale</i>	Anacardiaceae	-	-	-
40	Jelutung	<i>Dyera costulata</i>	Apocynaceae	-	-	-
41	Jiring	<i>Adenanthera ellipticum</i>	Fabaceae	-	-	-
42	Jangkang	<i>Xylopia malayana</i>	Annonaceae	-	-	-
43	Kalumpang	<i>Sterculia foetida</i>	Malvaceae	-	-	-
44	Kandis	<i>Garcinia parvivolvia</i>	Clusiaceae	-	-	-
45	Kantong semar	<i>Nepenthes gracilis</i>	Nepenthaceae		APPI	√
46	Kantong semar/ketikun	<i>Nepenthes mirabilis</i>	Nepenthaceae	-	App II	√
47	Karamunting	<i>Rhodomyrtus tomentosa</i>	Myrtaceae	-	-	-
48	Karet	<i>Hevea brasiliensis</i>	Euphorbiaceae	-	-	-
49	Kayu Arang	<i>Diospyros durionoides</i>	Ebenaceae	-	-	-
50	Kayu batu	<i>Irvingia malayana</i>	Simaroubaceae	-	-	-
51	Kayu laka	<i>Dalbergia cumingana</i>	Fabaceae	-	-	-
52	Kayu langit	<i>Tetrameles nudiflora</i>	Datisceae	-	-	-
53	Kayu Malam	<i>Diospyros bantamensis</i>	Ebenaceae	-	-	-
54	Keladi	<i>Alocasia longiloba</i>	Araceae	-	-	-
55	Kelait padang	<i>Uncaria sclerophylla</i>	Rubiaceae	-	-	-
56	Kembayau	<i>Santiria laevigata Bl.</i>	Burseraceae	-	-	-
57	Kempas	<i>Koompoassia malaccensis</i>	Fabaceae	-	-	-
58	Kepuak	<i>Artocarpus elasticus</i>	Moraceae	-	-	-
59	KerANJI	<i>Dialium indum</i>	Caesalpinaceae	-	-	-
60	Keruing	<i>Dipterocarpus sp.</i>	Dipterocarpaceae	-	-	-
61	Ketikal	<i>Ochanostachys amentacea</i>	Olacaceae	-	-	-
62	Kulim	<i>Scoorocarpus borneensis</i>	Olacaceae	-	-	-
63	Kumpang	<i>Knema cinerea</i>	Myristicaceae	-	-	-
64	Lumpang jambu	<i>Tinomisium petiolare</i>	Menispermaceae	-	-	-
65	Mahang	<i>Macaranga pruinosa</i>	Euphorbiaceae	-	-	-
66	Mahang	<i>Macaranga semiglobosa</i>	Euphorbiaceae	-	-	-
67	Majau air	<i>Shorea lepidota</i>	Dipterocarpaceae	CR	-	√
68	Mangga	<i>Mangifera indica.</i>	Anacardiaceae	-	-	-
69	Mayam	<i>Antidesma ghaesembilla</i>	Euphorbiaceae	-	-	-
70	Medang	<i>Litsea castanea</i>	Lauraceae	-	-	-
71	Medang Keladi	<i>Cryptocarya crassinervia</i>	Lauraceae	-	-	-
72	Medang kuning	<i>Litsea firma</i>	Lauraceae	-	-	-
73	Medang lendir	<i>Litsea mappacea</i>	Lauraceae	-	-	-
74	Medang Padi	<i>Litsea sp</i>	Lauraceae	-	-	-
75	Medang pergam	<i>Ternstroemia bancana</i>	Theaceae	-	-	-
76	Medang piawas	<i>Litsea tuberculata</i>	Lauraceae	-	-	-
77	Medang sandak	<i>Dehaasia microsepala</i>	Lauraceae	-	-	-
78	Medang sial	<i>Cinnamomum sp.</i>	Lauraceae	-	-	-
79	Melamas/tepus rawa	<i>Amomum coccineum</i>	Zingiberaceae	-	-	-
80	Mempeyok	<i>Glochidion zeylanicum</i>	Euphorbiaceae	-	-	-

81	Menggris	<i>Koompassia excelsa</i>	Fabaceae	-	-	-
82	Mengkajang	<i>Xylopia altissima</i>	Annonaceae	-	-	-
83	Mentangur	<i>Rapanea umbellata</i>	Myrsinaceae	-	-	-
84	Mentapai	<i>Haemocharis ovalis</i>	Theaceae	-	-	-
85	Mentawa, mentawak	<i>Artocarpus anisophyllus</i>	Euphorbiaceae	-	-	-
86	Mentoka	<i>Astronia macrophylla</i>	Melastomataceae	-	-	-
87	Meranti	<i>Shorea sp</i>	Dipterocarpaceae	-	-	-
88	Meranti batu	<i>Shorea platyclados</i>	Dipterocarpaceae	EN	-	-
89	Meranti Merah	<i>Shorea smithiana</i>	Dipterocarpaceae	CR	-	-
90	Mikania	<i>Mikania micrantha</i>	Asteraceae	-	-	-
91	Mundu	<i>Garcinia dulcis</i>	Clusiaceae	-	-	-
92	Nanga rusa	<i>Eugeissona sp.</i>	Arecaceae	-	-	-
93	Nenangka	<i>Artocarpus integer</i>	Moraceae	-	-	-
94	Nendamak	<i>Agathis alba</i>	Araucariaceae	-	-	-
95	Nyatoh	<i>Palaquium rostratum</i>	Sapotaceae	-	-	-
96	Nyatoh keho	<i>Payena leerii</i>	Sapotaceae	-	-	-
97	Paku	<i>Diplazium esculentum</i>	Dryopteridaceae	-	-	-
98	Paku rawa	<i>Stenochlaena palustris</i>	Blechnaceae	-	-	-
99	Paku-pakuan	<i>Nephrolepis sp.</i>	Davalliaceae	-	-	-
100	Pampasir	<i>Fagraea ceylanica</i>	Loganiaceae	-	-	-
101	Pandan	<i>Pandanus immersus</i>	Pandanaceae	-	-	-
102	Pelaik	<i>Alstonia angustiloba</i>	Apocynaceae	-	-	-
103	Pelaik pipit	<i>Alstonia schoolaris</i>	Apocynaceae	-	-	-
104	Pempisang	<i>Lophopetalum javanicum</i>	Celastraceae	-	-	-
105	Perdang	<i>Cyperus pilosus</i>	Liliopsida	-	-	-
106	Perepat	<i>Combretocarpus rotundatus</i>	Rhizophoraceae	-	-	-
107	Pinang	<i>Pinanga sp.</i>	Areaceae	-	-	-
108	Pisang-pisang	<i>Polyalthia glauca</i>	Annonaceae	-	-	-
109	Pohon Madu	<i>Koompassia melaccensis</i>	Fabaceae	-	-	-
110	Puduk	<i>Artocarpus kemando</i>	Moraceae	-	-	-
111	Punak	<i>Tetramerista glabra</i>	Theaceae	-	-	-
112	Purang	<i>Macaranga calladifolia</i>	Euphorbiaceae	-	-	-
113	Purun kudung	<i>Fimbristylis acuminata</i>	Cyperaceae	-	-	-
114	Putat	<i>Planchonia valida</i>	Lecythidaceae	-	-	-
115	Putri malu	<i>Mimosa pudica</i>	Fabaceae	-	-	-
116	Rambutan	<i>Nephellium lappaceum</i>	Sapindaceae	-	-	-
117	Ramin	<i>Gonystilus bancanus</i>	Thymelaeaceae	VU	-	-
118	Ramin batu	<i>Gonystilus sp</i>	Thymelaeaceae	-	-	-
119	Rampiang / pandan	<i>Pandanus sp</i>	Pandanaceae	-	-	-
120	Rengas	<i>Gluta renghas</i>	Anacardiaceae	-	-	-
121	Rengas Manuk	<i>Melanorrhoea walichii</i>	Anacardiaceae	-	-	-
122	Reribu	<i>Lygodium microphyllum</i>	Schizaceae	-	-	-

123	Resak	<i>Vatica rassak</i>	Dipterocarpaceae	-	-	-
124	Rotan	<i>Daemonorops elongatus</i>	Arecaceae	-	-	-
125	Rotan	<i>Daemonorops sabut</i>	Arecaceae	-	-	-
126	Rotan Sabut	<i>Calamus diepenhorst</i>	Arecaceae	-	-	-
127	Rukem	<i>Flacourtia rukam</i>	Flacourtiaceae	-	-	-
128	Rumput rambang sayap	<i>Scleria polycarpa</i>	Cyperaceae	-	-	-
129	Rumput rawa	<i>Eleocharis dulcis</i>	Cyperaceae	-	-	-
130	Salak hutan	<i>Zalacca blumeana</i>	Arecaceae	-	-	-
131	Saputungkul/mikania	<i>Mikania mcrantha</i>	Asteraceae	-	-	-
132	Sawit	<i>Elaeis guineensis</i>	Arecaceae	-	-	-
133	Selajau	<i>Alpinia galanga</i>	Zingiberaceae	-	-	-
134	Simpur	<i>Dillenia suffruticosa</i>	Dilleniaceae	-	-	-
135	Sindur	<i>Sindora brugemanii</i>	Fabaceae	-	-	-
136	Sungkai	<i>Peronema canescens</i>	Verbenaceae	-	-	-
137	Tampa batu	<i>Callicarpa cana</i>	Verbenaceae	-	-	-
138	Tarap	<i>Artocarpus rigidus</i>	Moraceae	-	-	-
139	Temaras	<i>Memecylon edule</i>	Melastomataceae	-	-	-
140	Tempisang	<i>Disepalum longipes</i>	Annonaceae	-	-	-
141	Tengkawang	<i>Shorea stenoptera</i>	Dipterocarpaceae	EN	-	√
142	Tentelan	<i>Antidesma phaneroplebium</i>	Euphorbiaceae	-	-	-
143	Tentugal	<i>Aporosa frutescens</i>	Euphorbiaceae	-	-	-
144	Teratung parean	<i>Durio sp.</i>	Malvaceae	-	-	-
145	Terentang	<i>Camnosperma coriaceum</i>	Anacardiaceae	-	-	-
146	Tubak rambut	<i>Barringtonia asiatica</i>	Lecythidaceae	-	-	-
147	Tulang ular	<i>Fagraea caelaniaea</i>	Loganiaceae	-	-	-
148	Tumpang labu	<i>Ilysanthes antipoda</i>	Scrophulariaceae	-	-	-
149	Ubah Putih	<i>Syzygium tawaense</i>	Myrtaceae	-	-	-
150	Ubar	<i>Garcinia balica</i>	Clusiaceae	-	-	-
151	Ubar	<i>Garcinia sp</i>	Clusiaceae	-	-	-
152	Ubar air	<i>Garcinia sp</i>	Clusiaceae	-	-	-
153	Ubar bentang	<i>Chaetocarpus castanocarpus</i>	Euphorbiaceae	-	-	-
154	Ubar jambu	<i>Syzygium lineatum</i>	Myrtaceae	-	-	-

Wildlife

There were 120 species of wildlife found in the area of PT LSM and grouped in 41 families that consist of Mammals 18 species (20 families), Aves 95 species (15 families), Reptile 6 species (6 families) and Amphibi 1 species

There are 41 species that are protected by Government Rule No 7/1999. Based on CITES, there are 22 species i.e. 4 species of Appendix I, 17 species of Appendix II, 1 species NT. Whereas, 16 species are included in IUCN RED LIST that consist of VU/Vulnerable 8 species and EN/Endangered 8 species (see Table 9).

Table 9. Wildlife Species in the Area of PT LSM Based on Their Status

No	Nama Jenis		Family	Conservation status		
	Lokal	Ilmiah		IUCN	CITES	PP NO 7
AVES						
1	Alap-alap capung	<i>Microhierax fringillarius</i>	Falconidae		App II	X
2	Asi topi-jelaga	<i>Malacopteron affine</i>	Timaliidae			
3	Bangau Storm	<i>Ciconia stormi</i>	Ciconiidae	EN		X
4	Bangau tongtong	<i>Leptoptilos javanicus</i>	Ciconiidae	VU		X
5	Bondol hijau binglis	<i>Erythrura prasina</i>	Ploiceidae			
6	Bondol hijau dada merah	<i>Erythrura hyperythra</i>	Ploiceidae			
7	Bondol kalimantan	<i>Lonchura fuscans</i>	Ploiceidae			
8	Bondol perut putih	<i>Lonchura leucogastra</i>	Ploiceidae			
9	Bondol rawa	<i>Lonchura malacca</i>	Ploiceidae			
10	Bubut alang-alang	<i>Centropus bengalensis</i>	Cuculidae			
11	Bubut besar	<i>Centropus sinensis</i>	Cuculidae			
12	Burung gereja	<i>Passer montanus</i>	Ploiceidae			
13	Burung madu	<i>Anthreptes malacensis</i>	Nectarinidae			X
14	Burung madu polos	<i>Anthreptes simplex</i>	Nectariniidae			X
15	Burung madu rimba	<i>Hypogramma hypogrammicum</i>	Nectariniidae			X
16	Burung-madu	<i>Aethopyga siparaja</i>	Nectariniidae			X
17	Burung-madu belukar	<i>Anthreptes singalensis</i>	Nectariniidae			X
18	Burung-madu kelapa	<i>Anthreptes malacensis</i>	Nectariniidae			X
19	Burung-madu sepah-raja	<i>Aethopyga siparaja</i>	Nectariniidae			X
20	Cabak maling	<i>Caprimulgus macrurus</i>	Caprimulgidae			
21	Cekakak batu	<i>Lacedo pulchella</i>	Alcedinidae			X
22	Cekakak sungai	<i>Todiramphus chloris</i>	Alcedinidae			X
23	Cica daun besar/otan daun	<i>Chloropsis sonnerati</i>	Chloropseidae			
24	Cica daun kecil	<i>Chloropsis cyanopogon</i>	Chloropseidae			
25	Cica daun sayap biru	<i>Chloropsis cochinchinensis</i>	Chloropseidae			
26	Cica kopi melayu	<i>Pomatorhinus montanus</i>	Timaliidae			
27	Cica-daun sayap-biru	<i>Chloropsis cochinchinensis flavocincta</i>	Chloropseidae			X
28	Cipoh jantung	<i>Aegithina viridissima</i>	Chloropseidae			
29	Cipoh kacat	<i>Aegithina tiphia</i>	Chloropseidae			
30	Cucak kuricang/broceng	<i>Pycnonotus atriceps</i>	Pycnonotidae			
31	Cucak rawa	<i>Pycnonotus zeylanicus</i>	Pycnonotidae	VU	App II	
32	Cucak rumbai tungging/jojah	<i>Pycnonotus eutilotus</i>	Pycnonotidae			
33	Delimukan zamrud	<i>Chalcophaps indica</i>	Columbidae			
34	Elang brontok	<i>Nisaetus cirrhatus</i>	Accipitridae			X
35	Elang tikus	<i>Elanus caeruleus</i>	Accipitridae		App II	X
36	Elang Ular Bido	<i>Spilornis cheela</i>	Accipitridae			X
37	Elang-laut perut-putih	<i>Haliaeetus leucogaster</i>	Accipitridae		NT	X
38	Enggang kihingan/baliang	<i>Anorrhinus galeritus</i>	Bucerotidae		App II	X
39	Gagak kampung	<i>Corvus macrorhynchos</i>	Corvidae			
40	Kacer	<i>Copsychus saularis</i>	Muscicapidae			
41	Kadalan beruang	<i>Phaenicophaeus diardi</i>	Cuculidae			

42	Kadalan selaya	<i>Phaenicophaeus chlorophaeus</i>	Cuculidae			
43	Kangkareng hitam	<i>Anthracoceros malayanus</i>	Bucerotidae		App II	X
44	Kangkareng perut-putih	<i>Anthracoceros albirostris</i>	Bucerotidae		App II	X
45	Kareo padi*	<i>Amaurornis phoenicurus</i>	Rallidae			
46	Kecici	<i>Sitta frontalis</i>	Sittidae			
47	Kehicap ranting	<i>Hypothymis azurea</i>	Muscicapidae			
48	Kepinis jarum kecil	<i>Rhipidura leucopygialis</i>	Apodidae			
49	Kerak kerbau	<i>Acridotheres javanicus</i>	Sturnidae			
50	Kipasan belang	<i>Rhipidura javanica</i>	Muscicapidae			
51	Kucica ekor kuning/kusior	<i>Trichixos pyrropygus</i>	Turdidae			
52	Kucica hutan/Tinjau	<i>Copsychus malabaricus</i>	Turdidae			
53	Kucica kampung/penyambung	<i>Copsychus saularis</i>	Turdidae			
54	Kukuk beluk	<i>Strix leptogrammica</i>	Strigidae			
55	Kuntul kecil	<i>Egretta garzetta</i>	Ardeidae			X
56	Kuntul Kerbau	<i>Bubulcus ibis</i>	Ardeidae	VU		X
57	Merbah gunung/jongjang	<i>Pycnonotus flavescens</i>	Pycnonotidae			
58	Murai-batu tarung	<i>Monticola solitarius</i>	Muscicapidae			
59	Pekaka emas/bekaka	<i>Pelargopsis capensis</i>	Alcedinidae			X
60	Pelatuk	<i>Celeus brachyurus</i>	Picidae			
61	Pelatuk ayam	<i>Dryocopus javensis</i>	Picidae			
62	Pelatuk sayap-merah	<i>Picus puniceus</i>	Picidae			
63	Perenjak	<i>Prinia familiaris</i>	Sylviidae			
64	Perenjak rawa	<i>Prinia flaviventris</i>	Silviidae			
65	Pijantung besar	<i>Arachnothera robusta</i>	Nectariniidae			X
66	Pijantung kampung	<i>Arachnothera crassirostris</i>	Nectariniidae			X
67	Pijantung kecil	<i>Arachnothera longirostra</i>	Nectariniidae			X
68	Pipit	<i>Lonchura malacca</i>	Estrilidae			
69	Pipit benggala	<i>Amandava amandava</i>	Ploiceidae			
70	Punai besar	<i>Treron capellei</i>	Columbidae	VU		
71	Punai Gading	<i>Treron vernans</i>	Columbidae			
72	Punai lengguak	<i>Treron curvirostra</i>	Columbidae			
73	Punai Siam	<i>Treron bicinctus</i>	Columbidae			
74	Puyuh batu	<i>Coturnix chinensis</i>	Phasianidae			
75	Raja udang kalung biru	<i>Alcedo euryzona</i>	Alcedinidae	VU		X
76	Raja udang meninting	<i>Alcedo meninting</i>	Alcedinidae			X
77	Rangkong badak	<i>Buceros rhinoceros</i>	Bucerotidae		App II	X
78	Sempur-hujan darat	<i>Eurylaimus ochromalus</i>	Eurylaimidae			
79	Sepah hutan	<i>Pericrocotus flammeus</i>	Campephagidae			
80	Serindit Melayu	<i>Loriculus galgulus</i>	Psittacidae			
81	Seriwang Asia	<i>Terpsiphone paradisi</i>	Muscicapidae			
82	Sikatan bakau	<i>Cyornis rufigastra</i>	Muscicapidae			
83	Sikatan hijau laut	<i>Eumyias thalassina</i>	Muscicapidae			
84	Sikatan kepala-abu	<i>Culicicapa ceylonensis</i>	Muscicapidae			
85	Sikatan kerdil	<i>Muscicapella hodgsoni</i>	Muscicapidae			
86	Srigunting	<i>Dicrurus annectans</i>	Dicruridae			
87	Srigunting bukit	<i>Dicrurus remifer</i>	Dicruridae			

88	Srigunting keladi	<i>Dicrurus aeneus</i>	Dicruridae			
89	Tekukur biasa	<i>Streptopelia chinensis</i>	Columbidae			
90	Tepus kepala kelabu	<i>Stachyris poliocephala</i>	Timaliidae			
91	Tiong	<i>Eurystomus orientalis</i>	Coraciidae			
92	Tiong emas/tiung	<i>Gracula religiosa</i>	Coraciidae		App II	
93	Walet sapi	<i>Collocalia esculenta</i>	Apodidae			
94	Walet sarang hitam	<i>Collocalia maxima</i>	Apodidae			
95	Wiwik lurik/ukit	<i>Cacomantis sonneratii</i>	Cuculidae			
MAMALS						
1	Babi hutan	<i>Sus scrofa</i>	Suidae			
2	Bajing kerdil telinga hitam	<i>Nannosciurus melanotis</i>	Sciuridae			
3	Bajing tanah bergaris	<i>Lariscus hosei</i>	Sciuridae			X
4	Bekantan	<i>Nasalis larvatus</i>	Cercopithecidae	EN	App II	X
5	Berang-berang	<i>Lutrogale perspicillata</i>	Mustelidae	VU	App II	
6	Kancil	<i>Tragulus kanchil</i>	Tragulidae			X
7	Kijang	<i>Muntiacus atherodes</i>	Cervidae			X
8	Kucing kuwuk	<i>Prionailurus bengalensis</i>	Felidae			X
9	Landak raya	<i>Hystrix brachyura</i>	Hystricidae			X
10	Lutung Banggat	<i>Presbytis hosei</i>	Cercopithecidae	VU	App II	
11	Lutung Simpai	<i>Presbytis melalophos</i>	Cercopithecidae	EN	App II	
12	Monyet Ekor panjang	<i>Macaca fascicularis</i>	Cercopithecidae		App II	
13	Orang utan, Mawas	<i>Pongo pygmaeus</i>	Pongidae	EN	App I	X
14	Owa Kalawat	<i>Hylobates muelleri</i>	Hylobatidae	EN	App I	X
15	Pelanduk kancil	<i>Tragulus javanicus</i>	Tragulidae			X
16	Rusa Timor	<i>Rusa timorensis</i>	Cervidae	VU		X
17	Tupai	<i>Sundasciurus tenuis</i>	Tupaidae			
18	Tupai ekor panjang	<i>Tupaia longipes</i>	Tupaidae		App II	
REPTILS						
1	Biawak	<i>Varanus salvator</i>	Varanidae		App II	
2	Kobra	<i>Naja sumatrana</i>	Elapidae		App I	X
3	Kura-kura	<i>Heosemys spinosa</i>	Geoemydidae	EN	App II	
4	Labi-labi	<i>Dogania subplana</i>	Trionychidae			
5	Senyulong	<i>Tomistoma schlegelii</i>	Crocodylidae	EN	App I	X
6	Ular sanca	<i>Python reticulatus</i>	Pythonidae		App II	
AMPHIBI						
1	Katak Pohon					

Environmental Services Aspect

Region or ecosystem that is important as a provider of Water and Flood Control for Downstream Communities.

Region or ecosystem that is found in the area of PT LSM is mainly lowland forest ecosystems and a little peat swamp forests; while the Cloud forest ecosystems, forest ridge and karst ecosystems are not found in the area.

Important Ecosystem and Its Relationship with the various Classes of Land Based on RePPPProT

Ecosystems found in the area of PT LSM consists of two (2) types, namely lowland forest ecosystems and peat ecosystem. Based on the RePPPProT and HCV Toolkit (June 2008), land classes found in the region consists of 4 (four) types, namely HJA (Honja), RGK (Rangankau), MDW (Mendawai) and SBG (Sebangau). However, because the condition of ecosystems has been much damaged (degraded) due to forest exploitation activities (logging) before any fields/cultivation, and forest encroachment activities (illegal logging), then some of the functions and benefits of ecosystems have degraded.

With regard to technical aspects of the management of oil palm plantations, the presence of lowland forest can be utilized as a land of oil palm cultivation. Similarly shallow peat lands, also technically can be used for oil palm cultivation.

But ecologically, particularly in peat ecosystems (with land system under GBT) will need to consider the legal aspects (relating to Regulation of the Minister of Agriculture No.14 years of 2009 and Presidential Decree No.32 of 1990), as well as other aspects (Prinsip 7 RSPO).

Regions that serves as a natural insulation to prevent the spread of forest fires and land

Regions that serves as a natural insulation to prevent the spread of forest fires and natural forest land is still in good condition, including swamp forests in the hydrological system (the peat swamp forest is still intact), swamp forest, inundation areas, other wetland and green lanes (green belt) with various types of fire-resistant plants. In the area of PT LSM not still area that can serve as a fire breaker.

Economy, Socio Culture of Local Community

Socio-economic and cultural problems that happened in the villages around the area of PT LSM caused by the emergence of socio-economic gap between villages and government policy of Ketapang Regency about village administrative boundaries. Socio-economic gap between the village emerged as a result of increased economic activity in the presence of village oil palm plantation companies located in the region of four villages, one of which is PT LSM. The operational of oil palm plantations has enhancing economic activities significant for the surrounding villages

Administratively, oil palm plantation of PT LSM is located in Nanga Tayap District, Ketapang Regency, West Kalimantan Province. Based on the results of field observation and review of existing maps show that areas of High Conservation Value (HCV) planned in the area of Oil Palm Plantations in the Area of PT LSM, West Kalimantan Province is 1,188.71 ha, with details as in **Table 11** and **Appendix 3**.

The identification result of HCV availability at PT LSM is detailed in the below **Table 10**.

Table 10. The Identification Result of HCV Availability at PT Ladang Sawit Mas Oil Palm Plantation Area

HCV		HCV AVAILABILITY
1	Area Has Important Biodiversity Level	
1.1	Area Posses or Give Supporting Function of Biodiversity for Protected Area and/or Conservation Area	Not Available
1.2	Critically Endangered species	Available
1.3	Area Has Habitat for Viable Population of Threatened, Circumscribed or Protected Species	Available
1.4	Area Has Temporary Habitat for Species or Group of Species	Available
2	Area Has Important Landscape for Naturally Ecological Dynamics	
2.1	The Area of Wide Landscape which has Capacity to Maintain the Process and Dynamics of Naturally Ecology	Not Available
2.2	The Natural Area which has Two or More Ecosystem with not Fragmented Contour (Continuously)	Not Available
2.3	Area which has Representative Population of Natural Species	Available
3	Area which has Rare or Threatened Ecosystem	Not Available
4	Area Provides Natural Environmental Services	
4.1	Important Area or Ecosystem to Provide Water and Flood Control for Community at Downstream Area	Available
4.2	Important Area to Control Erosion and Sedimentation	Not Available
4.3	Area which Has Function as Natural Border to Avoid the Spread of Forest Fire	Not Available
5	Natural Area which Has Important Function to Fulfill Basic Needs of Local Community	Available
6	Area has Important Function to Identify Traditional Culture of Local Community	Available

Analysis Result of the Availability of HCV

The area of Oil Palm plantation PT LSM has 1,188.71 ha HCV Area in total area or it is coverage 18% out of the total area of Management Unit (6,450 ha). The HCV Area at the area of Oil Palm plantation PT LSM are presented at **Table 11**. The Map of HCV Areas at Oil Palm plantation PT LSM is presented at **Appendix 3**.

Table 11. The HCV Area of PT Ladang Sawit Mas Oil Palm Plantation

No	Nama	NKT	Luas (ha)
1	Sempadan S. Danau Pasir	1.2, 1.3, 1.4, 4.1, 5	14.97
2	Sempadan S. Teluk Batu Tampin	1.2, 1.3, 1.4, 4.1, 5	21.31
3	Sempadan S. Keseluruhan	1.2, 1.3, 1.4, 4.1, 5	15.02
4	Sempadan S. Pembunuh Buaya	1.2, 1.3, 1.4, 4.1, 5	18.87
5	Sempadan S. Dukung	1.2, 1.3, 1.4, 4.1, 5	25.95
6	Sempadan S. Putih	1.2, 1.3, 1.4, 4.1, 5	26.03
7	Sempadan S. Peninjau	1.2, 1.3, 1.4, 4.1, 5	19.30
8	Sempadan S. Sembelangaan	1.2, 1.3, 1.4, 4.1, 5	2.29
9	Sempadan S. Penjalaan	1.2, 1.3, 1.4, 4.1, 5	12.09
10	Sempadan S. Kakahan	1.2, 1.3, 1.4, 4.1, 5	25.25
11	Sempadan S. Benipis	1.2, 1.3, 1.4, 4.1, 5	53.07
12	Sempadan S. Tanah Merah	1.2, 1.3, 1.4, 4.1, 5	55.05
13	Sempadan Anak S. Tanah Merah	1.2, 1.3, 1.4, 4.1, 5	15.49
14	Areal Belukar	1.2, 1.3, 1.4, 2.3	68.20
15	Areal Berhutan (Hutan Sekunder)	1.2, 1.3, 1.4, 2.3	17.07
16	Areal Bergambut	4.1	396.60
17	Areal Bergambut	4.1	402.14
18	Grave at BTJE & HJYE	6	0.02
	Total HCV Area		1,188.73

Internal Responsibility

Formal signing off by assessors and company


This document is the summary of assessment result on High Conservation Value (HCV) in PT Ladang Sawit Mas, Ketapang Regency West Kalimantan Province and has been approved by the Management of PT Ladang Sawit Mas.

Sonokeling Akreditasi Nusantara



Kresno Dwi Santosa
Team Leader HCV & SIA
Dated : 21 July 2014

Management
PT Ladang Sawit Mas,



Kamsen Saragih
General Manager
Dated : 21 July 2014

Statement of acceptance of responsibility for assessment

Assessment result document on High Conservation Value (HCV) of PT Ladang Sawit Mas by Sonokeling Akreditasi Nusantara (SAN), will be applied as one of the guidelines in managing Oil Palm plantation in PT Ladang Sawit Mas

Management
PT Ladang Sawit Mas,



Kamsen Saragih
General Manager
Dated : 21 July 2014

Appendix 1 List of respondents Public consultation HCV PT Ladang Sawit Mas

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Akreditasi Nusantara

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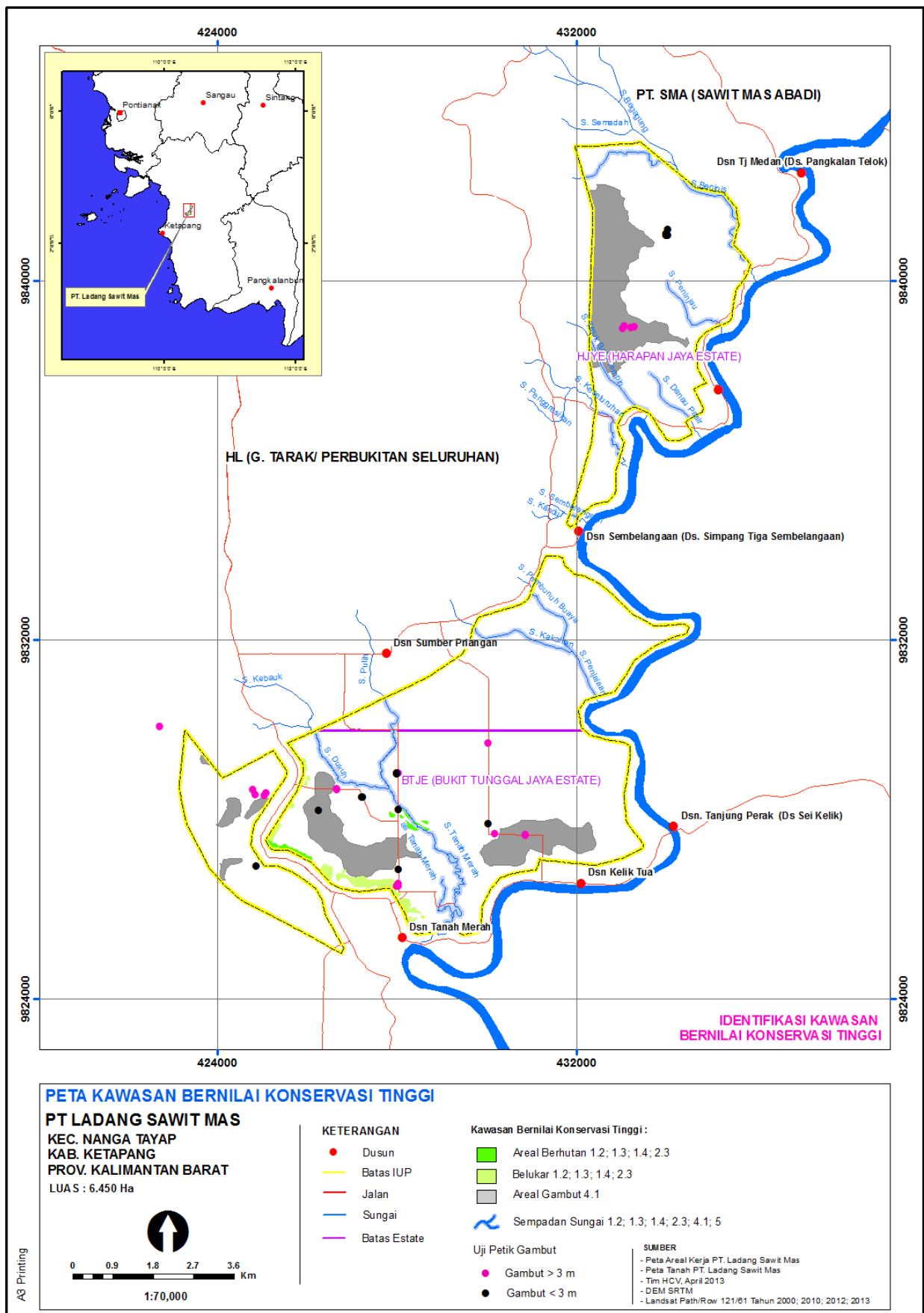
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55	Syahrial. S	BGA	[Signature]
56	Sud Harto A. S.	PT. Sonokeling	[Signature]

Appendix 2 List of prevailing applicable regulations and some supporting guidelines which used as references in the identification process of HCV and SIA study.

No	List / Type of Reference	Details
1.	Status of vulnerability according to the World Conservation Union (IUCN), 2009	CR : Critically Endagerd EN : Endangered VU : Vulnerable NT : Near threatened
2.	Status in terms of trade of world's wild fauna and flora (CITES), 2009	App. I : list of all plants species and animals which are prohibited to be internationally traded by any means. App. II : list of species that trading required rules to diminish the threats of extinction.
3.	RI State Legislation (Acts):	
	1931 <i>Dierenbeschermings Ordinance (Wild Animals Protection Ordinance) / 1931</i>	Wildlife protection
	1970 Decree of Minister of Agriculture, No. 421/Kpts/Um/8/1970	Wildlife protection
	1973 Decree of Minister of Agriculture, no 66/Kpts / Um / 2 / 1973	Wildlife protection
	1977 Decree of Minister of Agriculture, No. 90/Kpts/Um/2/1977	Wildlife protection
	1978 Decree of Minister of Agriculture, No. 327 / Kpts / Um/5/1978	Wildlife protection
	1979 Decree of Minister of Agriculture No. 247 / Kpts/Um/4/1979	Wildlife protection
	1980 Decree of Minister of Agriculture, No. 716 / Kpts/Um/10/1980	Wildlife protection
	1999 Government Regulation No. 7 of 1999	Wildlife protection
Government Regulation, PU 63/1993 PU	Determination width of the river riparian	
4.	Map of TGHK (Forest Land Use Agreement) and government's official documents concerning the appointment status of forest areas.	To determine the status of an area whether or not in the protected areas.

Appendix 3. Mp of HCV PT Ladang Sawit Mas



Appendix 4. Overlay map of HCV area and planting plan PT Ladang Sawit Mas

