



ROUNDTABLE ON SUSTAINABLE PALM OIL

New Planting Procedure

Summary Report

**Planning and Management of Social and
Environmental Impact and High Conservation Value**

PT. Andes Sawit Mas
Subsidiary : Alpha Capital Limited

**Ketapang District
West Kalimantan
Indonesia**

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Abbreviations

HCV	High Conservation Value
SIA	Social Impact Assessment
SEIA	Social Environmental Impact Assessment
ASM	Andes Sawit Mas
RTRWP	Rencana Tata Ruang Wilayah Propinsi
HGU	Hak Guna Usaha
AMDAL	Analisis Mengenai Dampak Lingkungan
LUCA	Land Use Change Analysis
MoU	Memorandum of Understanding
APL	Area Penggunaan Lain
GIS	Geographical Information System

1. Executive Summary

This report represents the executive summary of the final results of the High Conservation Values (HCV) carried out by Daemeter Consulting in January – November 2015 and Social Impact Assessment (SIA) in April – December 2015 for **PT. Andes Sawit Mas (ASM)**.

PT. ASM begins to implement new planting plans for palm oil production of 5.483,72Ha. These plans are to expand an area of 1.829,17 Ha of **Sungai Tempayak Estate (STKE)** and expand an area of 3,654.55 Ha **Danau Ratu Estate (DRUE)** in PT. ASM (Inti).

Location Permit (Izin Lokasi) for PT. ASM was approved by Ketapang regency on 11 November 2008, No. 119 year 2008 and Extension on location permit for palm oil plantation and palm oil mill development on 30 December 2009, No. 531 year 2009. The plantation permit was issued by Ketapang regency on 27 May 2010, Cultivation Business Permit (IUP) No. No. 307 year 2010 for 12.515 ha. New planting area of 5.483,72 Ha is within permitted area for PT. ASM (\pm 16.100 ha) It is appertained to land managed under Sungai Tempayak Estate and Danau Ratu Estate of PT. ASM.

PT. ASM Land title (HGU) was in progress based on letter to Kepala Badan Pertanahan Nasional Provinsi Kalimantan Barat No.011/ASM-BPN/XII/2015 dated 02/12/2015. The letter related to application for supervision/survey on boundary poles in PT Andes Sawit Mas. The letter received by the BPN Office on 03/12/2015. The proposed land bank to be certified is for company-owned Plantation 4,213.28 Ha; Mill and housing infrastructure 64.72 Ha; Koperasi Bagan Lempahung 829.01 Ha; and Koperasi Danau Ratu 523.94 Ha.

Additionally, in the Statement Letter for issued by BPKH region III, West Kalimantan Province No.S.355/VII/BPKH-III/2009 dated 14 August 2009, it is stated that as shown by digital assessment on forest and waters map No. 259/Kpts-II/2000, the area of PT. ASM is located in Other Purposes Land (Area Penggunaan Lain, APL). When overlaid with the most recent forest and waters map of West Kalimantan Province Decree No. 733/Menhut-II/2014, PT.ASM area is located in Other Purposes Land (APL).

PT. ASM map when overlay against “Peta Indikatif Penundaan Izin Baru untuk Hutan Primer dan Gambut” based on SK Menhut No.5285/Men-LHK-PKTL/IPSDH/2015 (Revisi IX) dated 20/11/2015, the concession is located under Other Purposes Land (APL).

PT. ASM Environmental Impact Assessment (EIA) AMDAL’s was approved on 2009 by Governor of West Kalimantan, West Kalimantan Governor No 547. AMDAL was prepared by an accredited AMDAL consultant and included consideration of both negative as well as positive social and environmental impacts. The scope of AMDAL included assessment of impacts associated with land development, infrastructure, road access, mill operations and transportation. AMDAL also included assessment of the suitability of soils, topography and drainage and analysis of the land cover vegetation. AMDAL assessed the impacts on natural ecosystems and water resources.

Social Impact Assessment (SIA) carried out by Daemeter Consulting in 2015 was oriented to reach reliable social impact which potentially arises due to development of PT. ASM project. The villages of PT. ASM was dominated by local population, there is Ethnic of Dayak Jelai and Ethnic of Dayak Kendawangan, West Kalimantan.

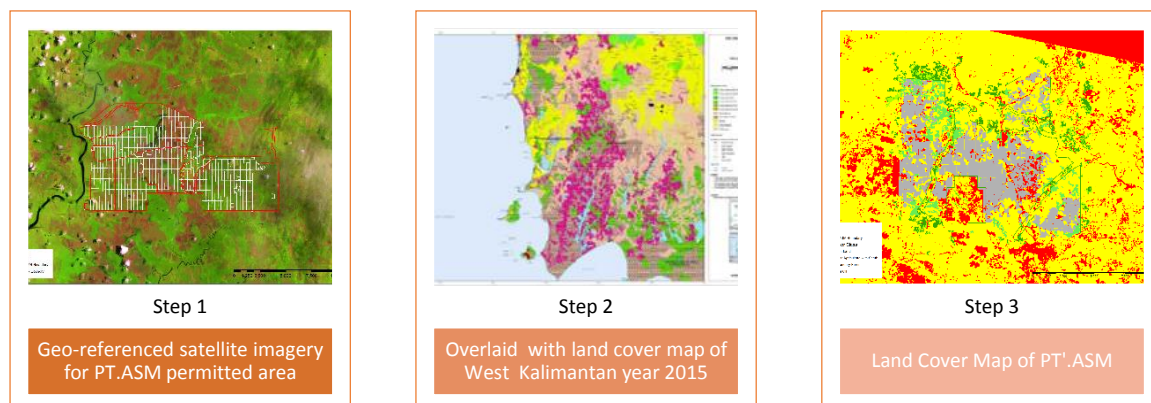
HCV Assessment conducted by Daemeter Consulting in 2015 have identified HCV areas in different categories. The assessment was carried out covering new planting areas at PT. ASM. The assessment identified 5 types of HCV. These HCVs are HCV 1, HCV 3, HCV 4, HCV 5 and HCV 6. The assessment also provides recommendation for the company in managing the HCV area. HCV areas are outside of those intended for planting plant of PT. ASM.

The result of HCV assessment that carried out by Daemeter Consulting in 2015 shows that there is no primary forest in new planting areas of inti. New planting areas are within classification of other land-use.

Land Use Change Assessment (LUCA)

Based on LUCA in PT. ASM, result also shows that there is no primary forest in the new planting areas. Methodology used in this assessment is processing image satellite into four vegetation Cover. Step of process in this assessment is illustrated on the figure below.

Figure 1. Step process to determine land cover.



The team used Sattelite image Landsat 8 OLI/TIRS acquired March 2016 (resolution 30 m with cloud cover 7%). The satellite imagery showed that new development area in a largely deforested landscape which consist of open land (11,25%),mixed agroforestry and scrub (71,67%) and secondary forest (11,25%). In the areas intended for new planting, no peat soils were identified. This assessment was carried out from map of soil of the region and during HCV assessment by Daemeter Consulting in 2015.

2. Scope of the Planning and Management

2.1. Organizational information and contact persons

Table 1. Organizational information and contact persons

Company Name	PT. Andes Sawit Mas
Subsidiary	Alpha Capital Limited (RSPO Membership Number : 1-0199-16-000-00)
Company address	Periangan Village, Deranuk Village, Perigi Village, Teluk Runjai Village, Tangerang Village, Riam Batu Gading Village, Runjai Jaya Village Marau Sub District, Jelai Hulu Sub District Ketapang District West Kalimantan, Indonesia
Geographical Location	North : 110°48'37" E ; 01°58'37" S West : 110°42'37" E ; 02°2'35" S East : 110°50'28" E ; 02°4'23" S South : 110°48'44" E ; 02°5'55" S
Capital Status	Foreign Investment (PMA)
Type of business	Palm oil plantation and milling
Status of land ownership	<input type="checkbox"/> PT. ASM own land (Inti) <input type="checkbox"/> Ketapang Regent Decree No. 531 (± 12.515 Ha)
Contact Person	<input type="checkbox"/> President Director – Anthony Yeow <input type="checkbox"/> Email Address: Anthony_Yeow@cargill.com <input type="checkbox"/> Group Sustainability Manager – Yunita Widiastuti <input type="checkbox"/> Email Address: Yunita_Widiastuti@cargill.com
Total area of new planting	5,483.72 Ha

2.2. Personnel involved in planning and implementation

Planning and implementation plans for new planting involves Estate Department, Agronomy Service Department, GIS and Sustainability Department. The overall personnel are shown below.

Table 2. Personnel involved in planning and implementation

Name	Position	Roles & Responsibility
Anthony Yeow	President Director	General Manager
Yunita Widiastuti	Group Sustainability Manager	RSPO NPP Process

Taufik Nasution	Chief Estate Manager	Evaluate & Monitor Project , Report to President Director
Ahmad MS	Senior Estate Manager PT. ASM	Manage New Development Project for All Estates, Report To CEM
Yogi Wicaksono	Sustainability Manager	HCV Management & Monitoring, HCS Assesment , Report To Group Sustainability Manager
Andreas Sinukaban	Estate Manager DRUE	Identification of Land Owner, Negotiation, Land Compensation, Land Clearing, Palm Oil Planting at DRUE, Report To SEM
Purnomo	Estate Manager STKE	Identification of Land Owner, Negotiation, Land Compensation, Land Clearing, Palm Oil Planting at STKE, Report To SEM
Herwandi Agustian	Agronomy Service Department Manager	Quality Control, Report To CEM
Marulak Simanjuntak	GIS Coordinator	HCS & HCV Mapping, Mapping of Land Compensation, Report To CEM

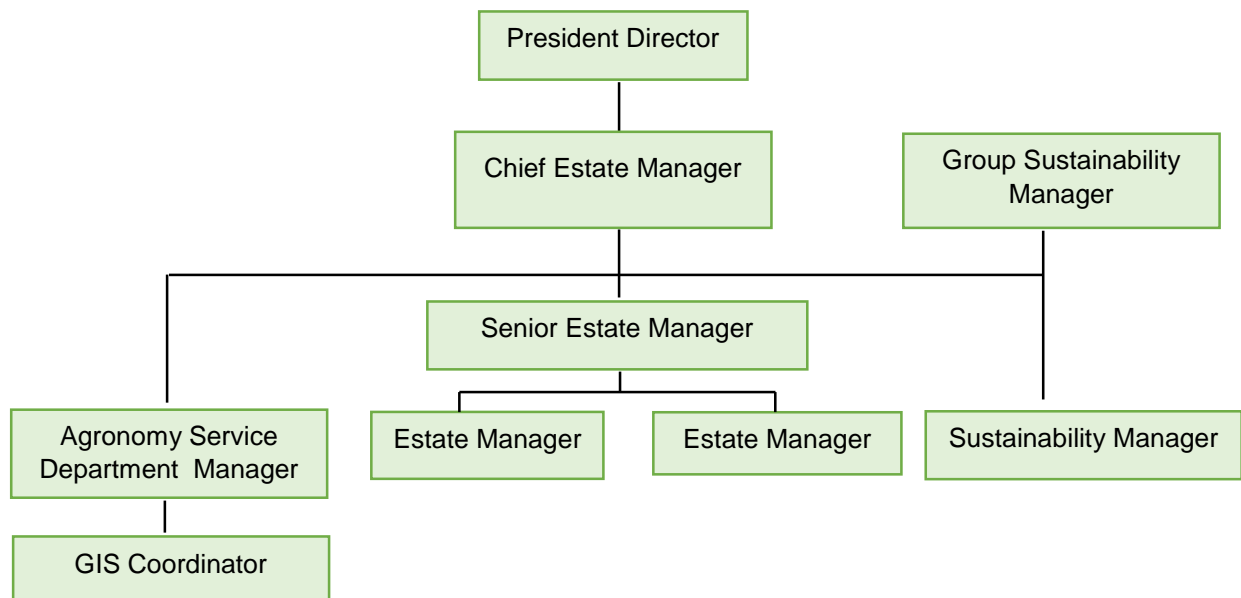


Figure 2. Organization Flowchart

2.3. Stakeholders Consultations

Stakeholder consultation is fundamental to the HCV process. A range of stakeholders was consulted during the full assessment stage. Stakeholder input focused on opinions and concerns about operational activities in the AOI and specific input on biodiversity issues, environmental services, local livelihoods and other issues of concern to local communities and broader stakeholder groups. Stakeholders that have been consulted include :

- Daemeter Consulting
- Government officials in district (Kecamatan Marau & Jelai Hulu)
- Government officials in village level (desa and dusun)
- Village Councils (BPD/Badan Perwakilan Desa)
- Community organisation (Dewan Adat Dayak)
- Village elders (tokoh masyarakat)
- ASM company staffs (Danau Ratu Estate & Sungai Tempayak Estate)
- Fauna & Flora International (FFI) - Ketapang

As part of HCV assessment, a public consultation was conducted at Jelai Hulu District Office on 16 June 2015 with 30 participants from 7 village and 15 sub-village. Public consultation meeting with result presentation approach has been conducted in district level with attendants from government officials in district level (Administration and representatives of the local communities).

2.4. Reference Documents

2.4.1. List of Reports

- Environmental Impact Assessment (AMDAL document) of PT. ASM on 2009 (West Kalimantan Governor on 2009)
- Report of Identification and Analysis of High Conservation Value of PT. ASM by Daemeter Consulting on January – November 2015
- Social Impact Assessment (SIA) by Daemeter Consulting on April – December 2015

2.4.2 List of Legal Documents

Table 3. List of legal document & property deed

Legal Documents	Issued by	Number and date
Taxpayer Notification Number (NPWP)	Ministry of Finance Directorate General of Taxation, Republic Indonesia	02-546-133-6-703-001
Location Permit	Ketapang Regent	Ketapang Regent Decree No. 119 (19.900 ha) 26 March 2007
Location Permit (Revision of Ketapang Regent Decree No. 119 Year 2007)	Ketapang Regent	Ketapang Regent Decree No. 419 (16.100 ha) 11 November 2008
Extension on location permit	Ketapang Regent	Ketapang Regent Decree No. 531 (16.100 ha) 30 December 2009
Cultivation Business Permit (Izin Usaha Perkebunan)	Ketapang Regent	Ketapang Regent Decree (12.515 ha) May 2010
Company Deed	Notaris Misahardi Wilamarta	No. 113 , year 2006

2.5. Location Maps

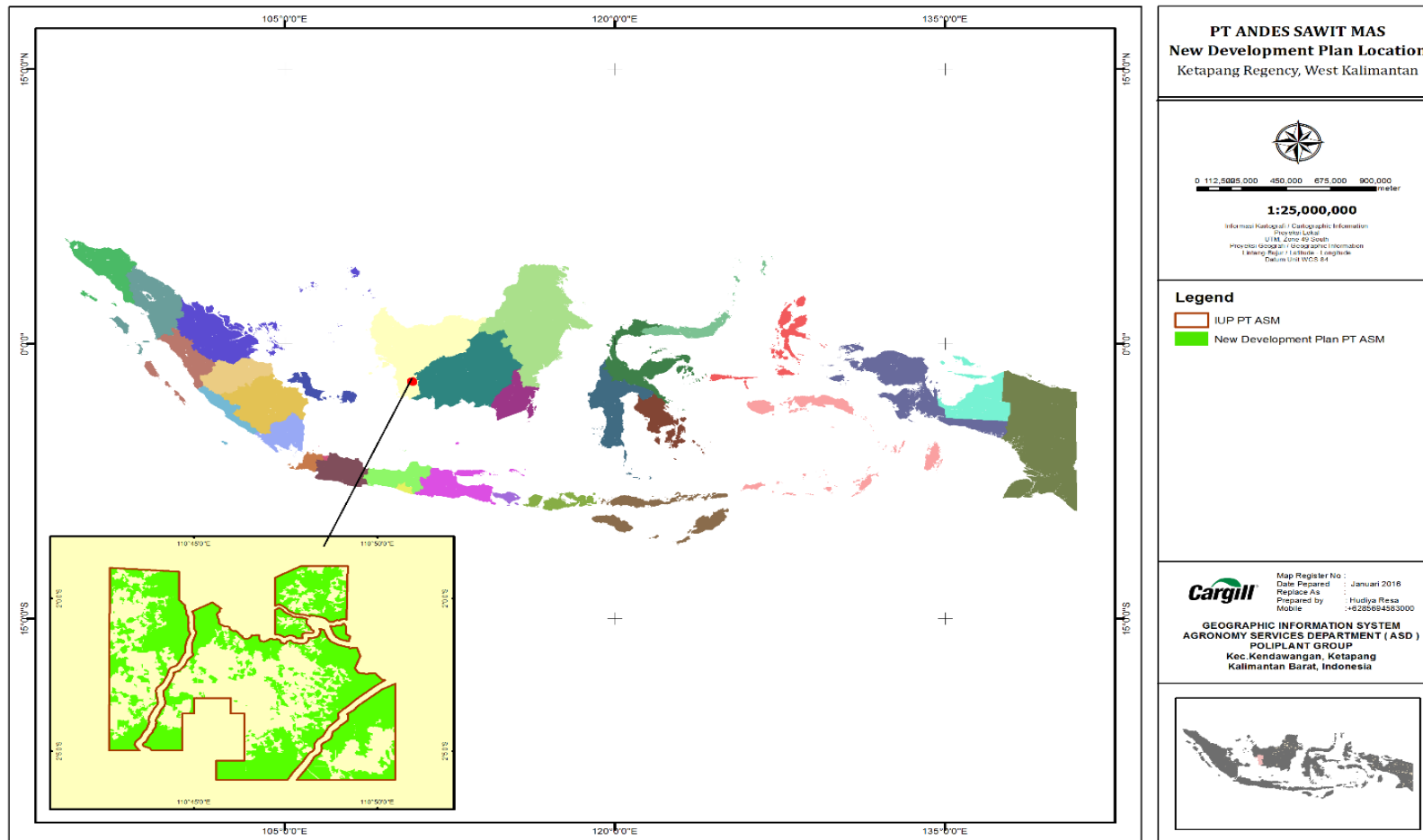


Figure 3. New development map of PT. ASM in Indonesia.

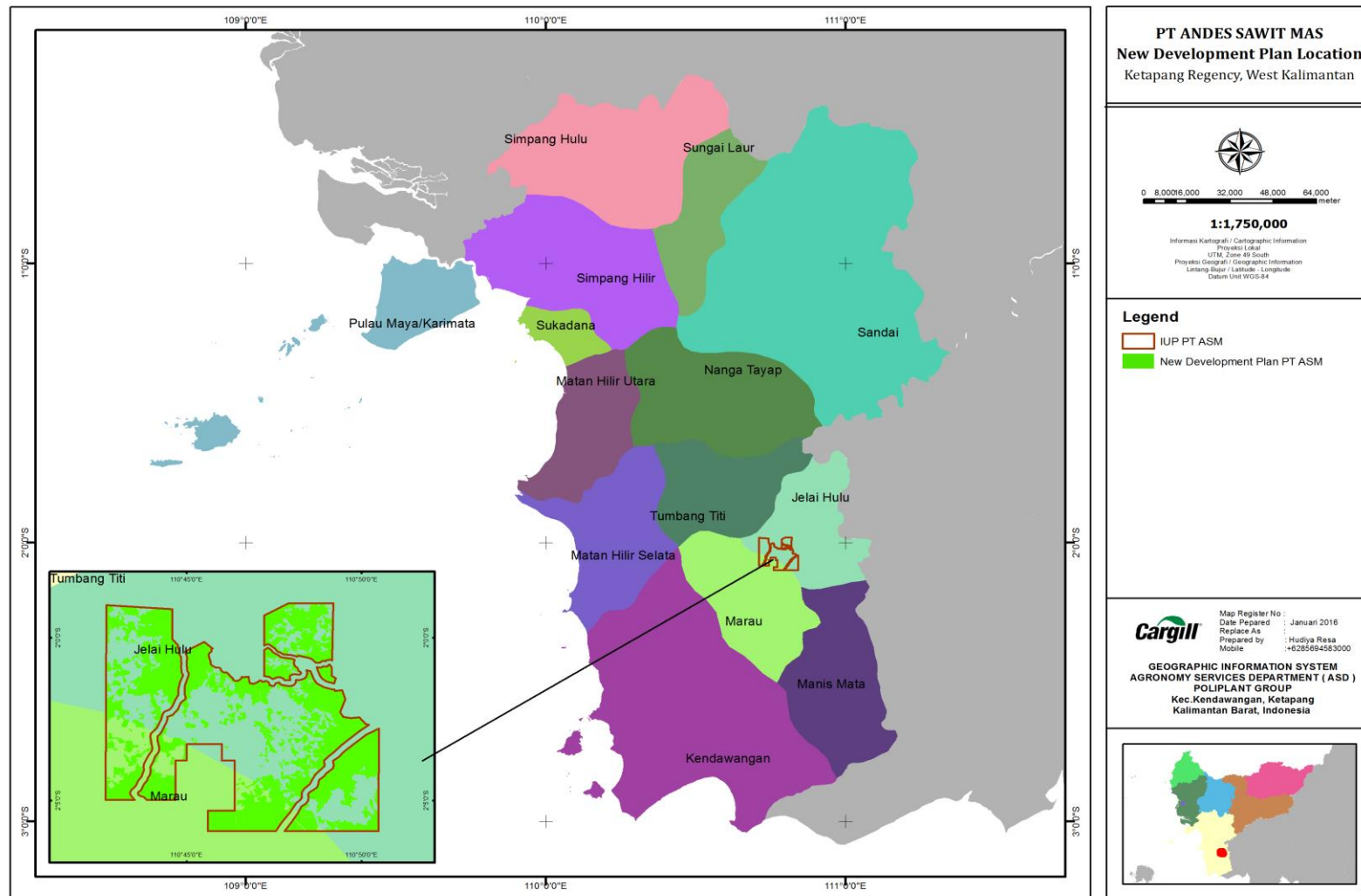


Figure 4. New development map of PT. ASM in Ketapang Regency, West Kalimantan.

OVERLAY MAP OF PT ASM WITH SURROUNDING ENTITIES

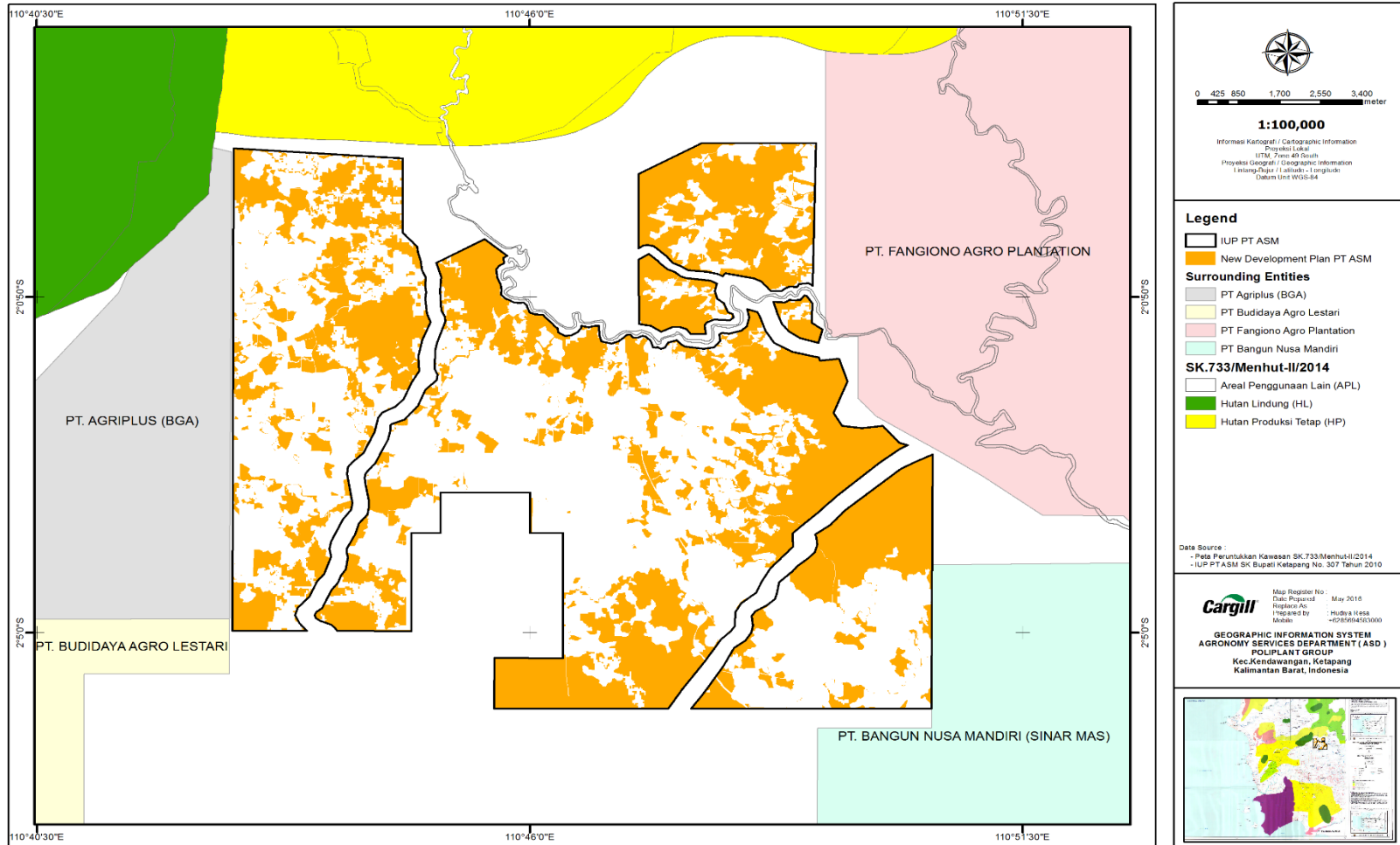


Figure 5. Location map of PT. Andes Sawit Mas with surrounding entities.

OVERLAY MAP OF PT ASM WITH PETA KAWASAN HUTAN DAN PERAIRAN

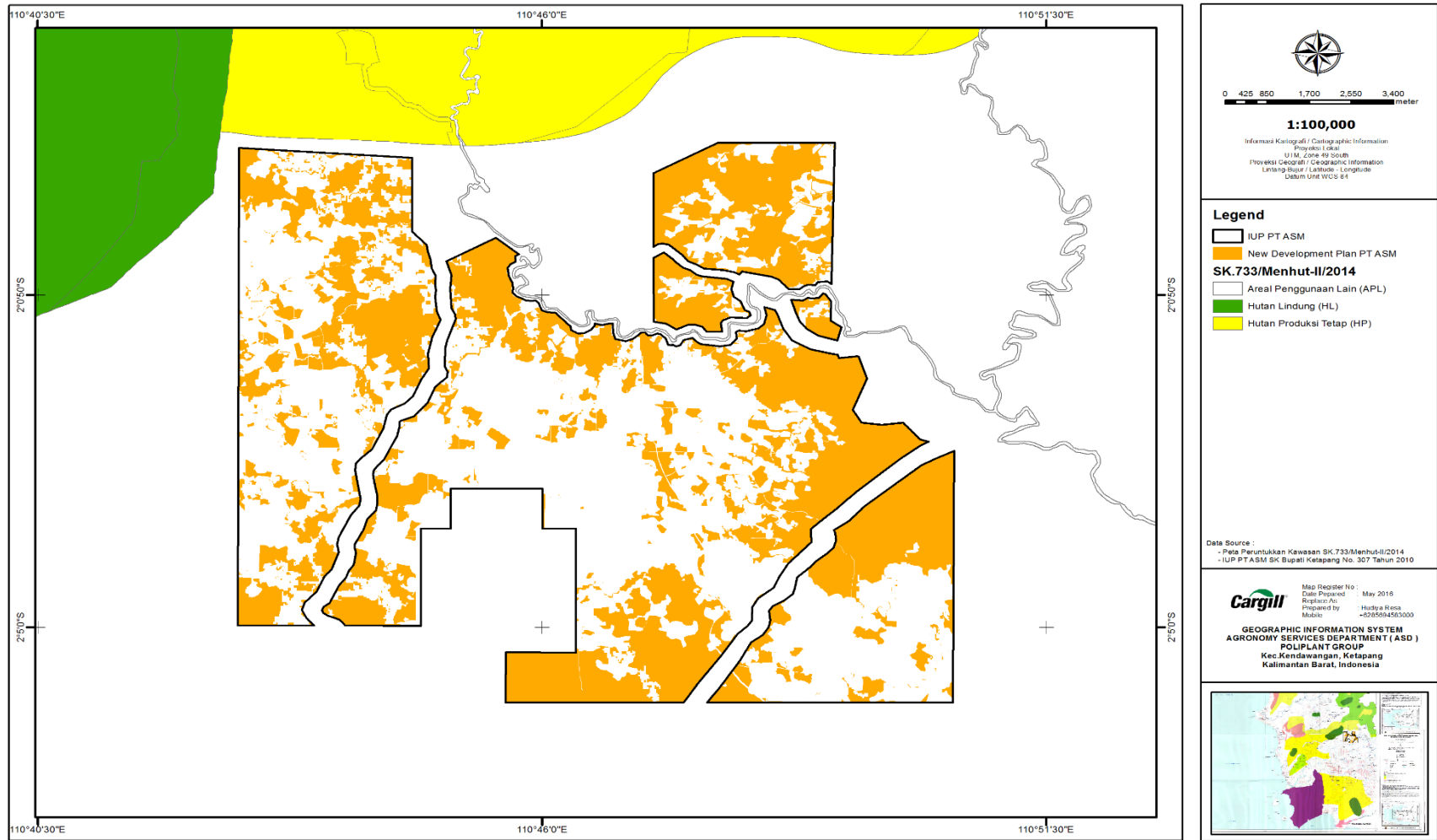


Figure 6. Overlay Map of PT.ASM with Forest Area and Water Map based on SK.733/Menhut-II/2014.

OVERLAY MAP OF PT ASM WITH PETA INDIKATIF PENUNDAAN IZIN (REV IX)

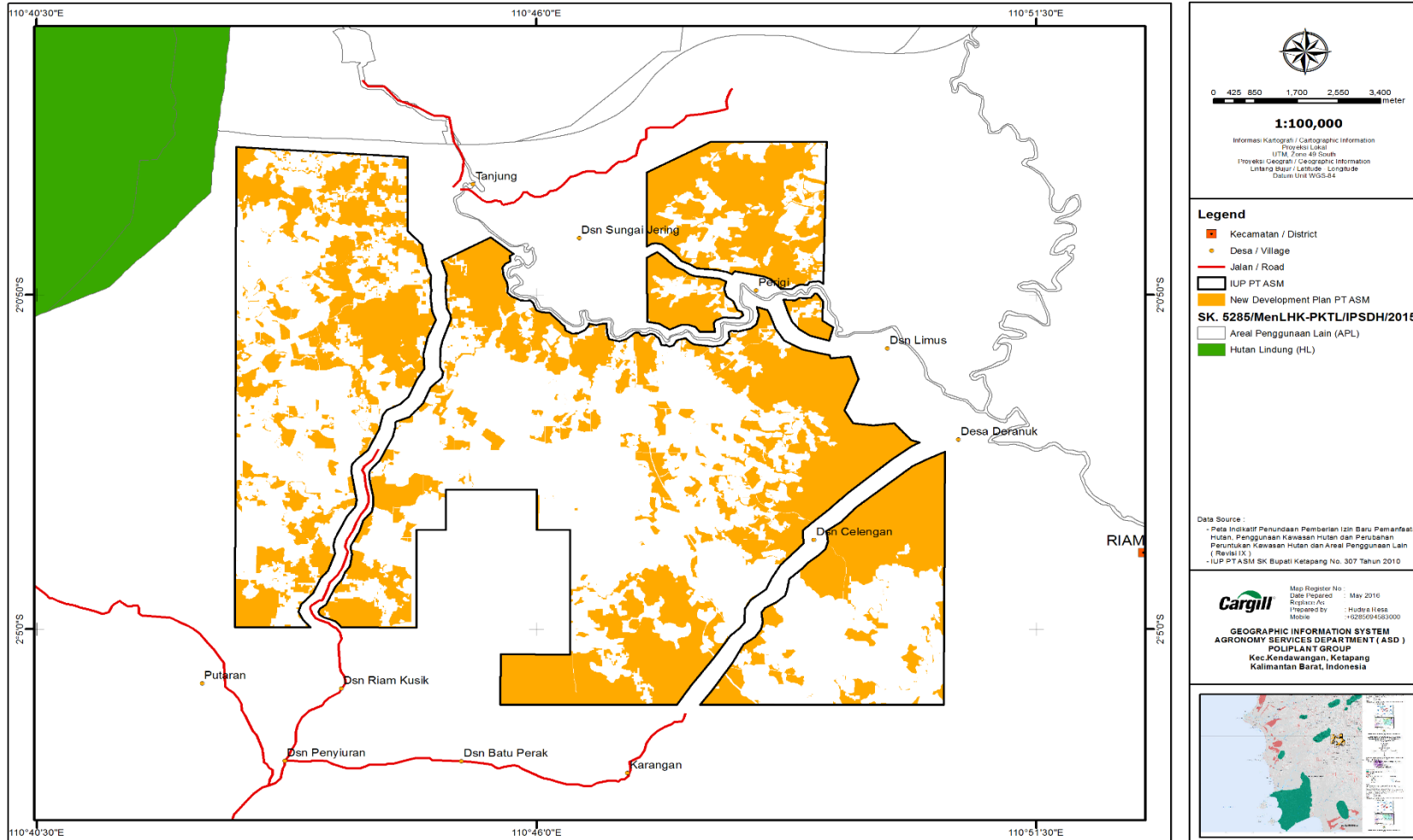


Figure 7. Overlay Map of PT.ASM with Moratorium Map based on SK.5285/MenLHK-PKTL/IPSDH/2015.

TOPOGRAPHY MAP OF NEW DEVELOPMENT PT ASM

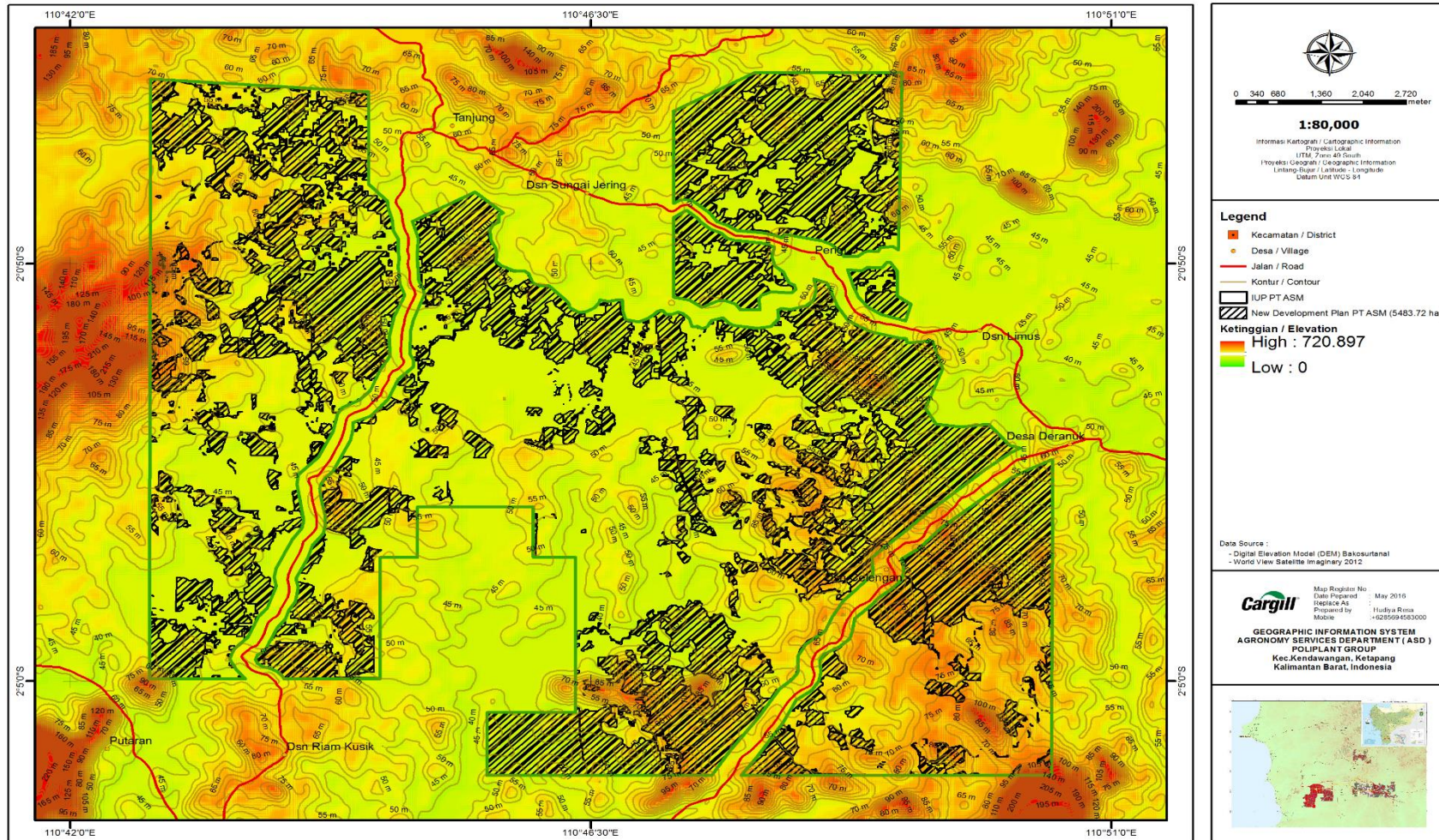


Figure 8. Topography Map of New Development PT.ASM

PETA JENIS TANAH PT ASM

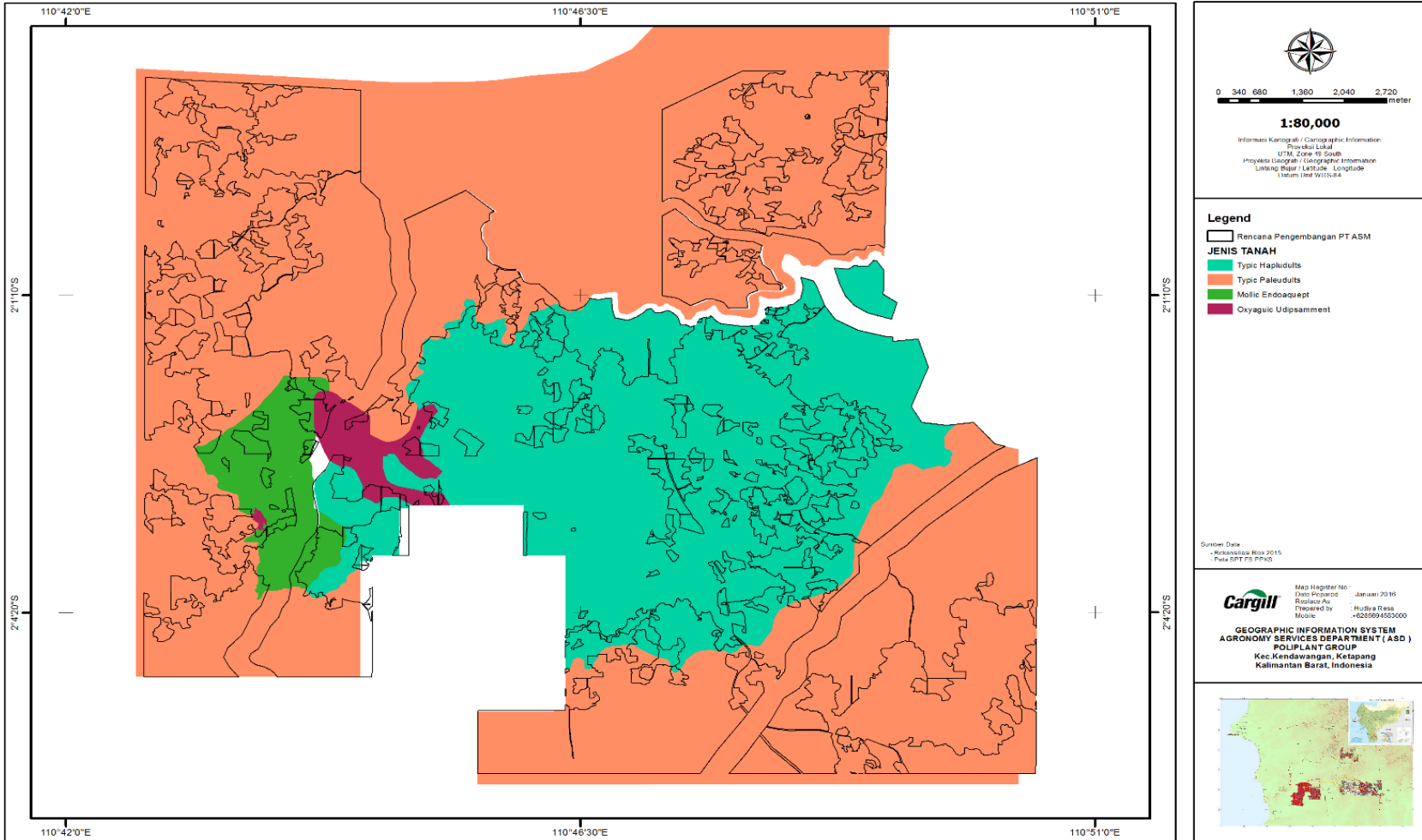


Figure 9. Topography Map of New Development PT.ASM

NEW DEVELOPMENT PLAN PT ASM

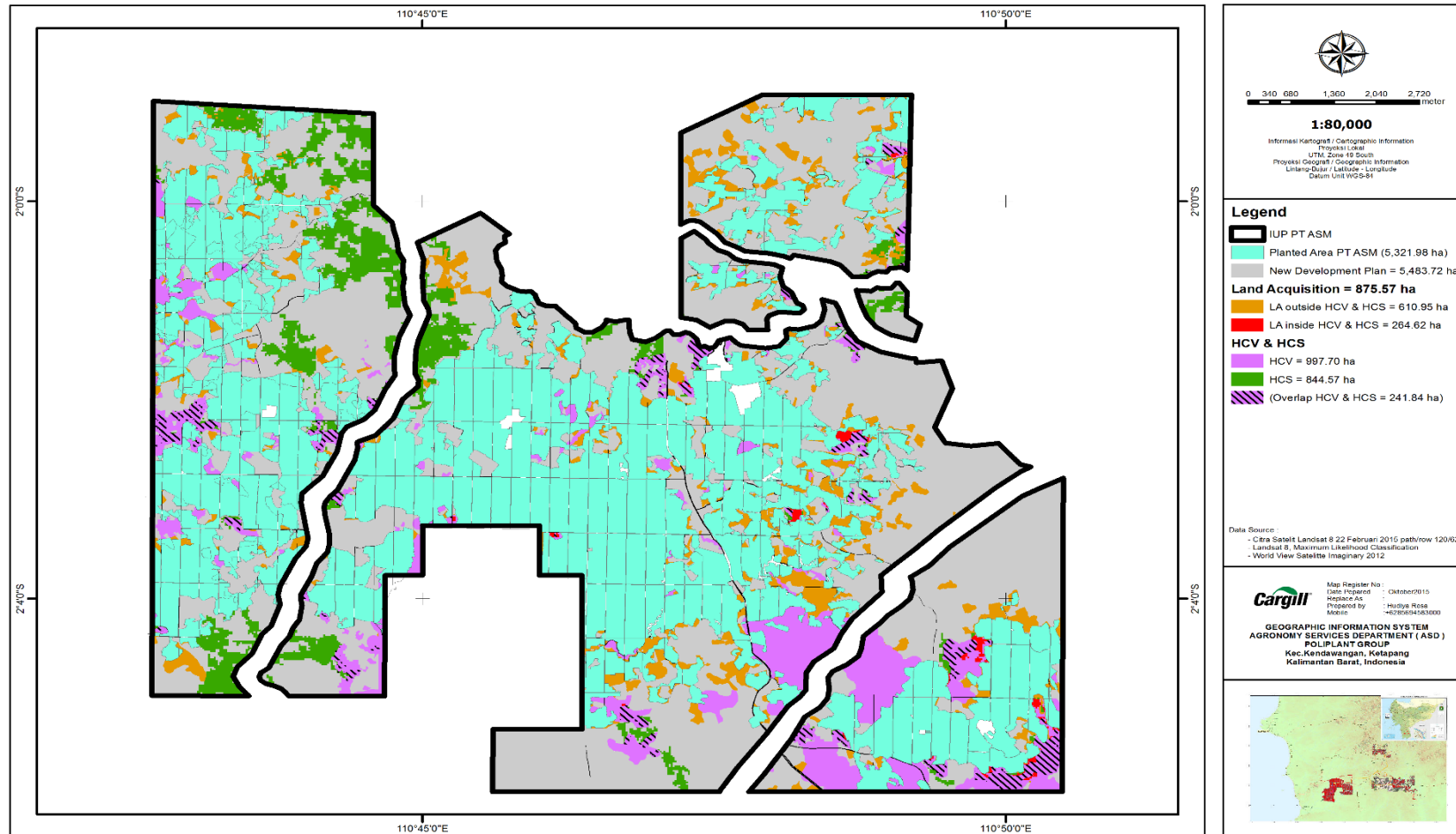


Figure 10. Map Shown the Planted Area, New Development Plan, HCV and HCS Area and Area Have been Compensated.

2.6. Area and time plan for new planting

New planting area of 5.483,72 Ha is expansion program for Sungai Tempayak Estate and Danau Ratu Estate of PT. ASM and is within permitted area for PT. ASM. Twenty percent (20%) of new planting will be allocated for smallholders. Planted area amount 5.321,98 Ha took place after November 2005 prior to HCV assessment. The Total HCV identified inside of IUP is 1246 Ha and from there 997,70 Ha is on new development area. Total HCS area identified is 844,57 Ha. The area of new planting was excluded from HCV and HCS. Process of FPIC was already started since 2009 prior to development of plantation through the socialization of scheme 80:20 for Company own and smallholders called “inti and Kemitraan”. The process of land compensation held by team consist of Satgas Team, Village Satlak and Company.

The detail area and time plan for new planting are summarized in table below.

Table 4. Data of Planted Hectarage and New Planting Time Table

No.	Remarks	Amount (Ha)
A.	IUP	12.515
B.	Planted Area	5.321,98
	- Planting Year 2014	852,61
	- Planting Year 2013	531,37
	- Planting Year 2012	140,7
	- Planting Year 2011	669,53
	- Planting Year 2010	1791,29
	- Planting Year 2009	35,90
C.	Company own (Inti)	4021,4
	Smallholders (Kemitraan)	1300,58
D.	Unplanted Area	7084,15
E.	Potential Development area	5.483,72
	- 2016/2017	1500
	- 2017/2018	1500
	- 2018/2019	1500
	- 2019/2020	983,72
F.	HCV (Total Without Overlap)	1246
	HCV area inside of Unplanted area	997,70
	HCS	844,57
	Overlap HCS & HCV	241,84

3. Summary of Management and Planning

3.1. Summary of Planning and Programs for Social and Environmental Impacts

The SEIA development and preparation of management and monitoring Plan for PT. ASM is prepared under cooperation agreement between PT. ASM and AMDAL consultant and Daemeter Consulting. The preparation of such report refers to the result of identification and analysis of Social Impact Assessment conducted in April – December 2015 in the area of PT. ASM, Ketapang Regency, West Kalimantan Province and the frame of reference of

the agreed work.

The following management and mitigation measures are recommended for adoption and implementation, in order to address the significant potential social and environmental impacts and make the project socially acceptable and beneficial.

Based on the results of the study of Social Impact Assessment in PT. ASM, the following is a step that is recommended to reduce the negative social impact in the PT ASM :

1. The company improve the ways to communicate and connect with the community.
2. The company immediately to socialize in detail about the positive impact and negative of the management of palm oil plantations, a partnership and a set of rules cooperation will be carried out with the community.
3. The company has always coordinate with indigenous leaders, village officials, leaders community and other interested parties, if there are activities related to measurement land or marking boundaries, considering the people in the area around the location permit was uphold customary law.
4. To avoid conflicts of land ownership in the future should be in corporate land acquisition involves land owners, the witness left and right boundaries of land and village officials in land acquisition.
5. The company can use existing institutional development, such as cooperatives at the village level to discuss the potential impact of this and cooperate with the local government to formulate options for the settlement of this problem.
6. The company should continue to deal with all groups of society, especially affected, to get information about the interests and wishes them and discuss it with them. Communication and this relationship should not limited to the elite village or cooperative, but all the components of society including those considered as disadvantaged groups

To ensure that the activities to increase the positive impact and reduce the negative impact goes as planned the need for monitoring activities as follows :

Table 5. Social Impact Monitoring Plan

No	Impact Monitored	Indicator	Monitoring Methods	Monitoring Frequency	Person In Charge
1	The opening of access of transportation, communication and information	<ul style="list-style-type: none"> • Long road in plantation area • Quality of roads and means of transport and telecommunications 	Identifying the road damaged and infrastructure of the need of road repair	Once a month and enhancement of frequency on rainy season	Estate Manager
2	Local Manpower Absorption	<ul style="list-style-type: none"> • The number of job vacancies • The number of local labor that can be absorbed in the company's activities 	Provision of jobs, especially for local employment and job vacancies openly expressed either through village officials / district as well as through announcements / media	Any time , When Company have Vacancy	HR Manager

3	The increase in income of the people, especially members of the partnership	<ul style="list-style-type: none"> • The number of children who enroll in higher education • Housing conditions are getting better and permanent • Others 	A visit to the school, to the market and to the village to see the physical changes	Every three months	Estate Manager
4	Institutional capacity building	<ul style="list-style-type: none"> • The number of institutions in the village and its position against the outsiders • The number of members in these institutions 	Identifying new organization that might be developed by the community with respect to certain issues, such as gatherers TBS cooperatives, etc.	Every three months	Estate Manager
5	Increasing the capacity of human resources	<ul style="list-style-type: none"> • The number of skilled workers • The number of high school or University graduates • The existence of a new initiative being developed in the village 	Do counseling and guidance on the Oil Palm management, the development and improvement of skills and entrepreneurship to society and youth, providing assistance for entrepreneurship	Once every six months	HR Manager
6	Changes in habits and environment	<ul style="list-style-type: none"> • The new choice in agriculture • Total number of criminals who handled by the authorities • The existence of a joint initiative between the company and the community in order to secure the Plantation and surrounding 	A visit to the department of agriculture or plantation services for which they will develop programs and cooperate with the authorities in providing security to citizens	Every three months	Estate Manager
7	The decline in water quality	<ul style="list-style-type: none"> • Clarity, hazardous chemical elements 	Conduct laboratory testing and publish the results of testing to the public	Once every six months	EHS Manager
8	Social conflict	<ul style="list-style-type: none"> • Data from the company's land acquisition • The number of letters of protest sent by the citizens to the company • Demonstration by residents 	<ul style="list-style-type: none"> • Identify and respond to issues that developed in the community to communicate directly to the community / village officials • Respond, receive complaints and desires of the community • Doing good and intensive communication with the authorities and villagers to involve the local community in the activities of the company resulting 	Every six months	Humas & CSR Team

			<p>in a harmonious relationship with the community</p> <ul style="list-style-type: none"> Identify land has been, is and will be released by the owners, size and location of the village / hamlet 		
9	The decline in public confidence, especially members of the partnership	<ul style="list-style-type: none"> The existence of joint activities between the community and company The presence of anti oil and anti companies 	Establish intensive communication with the authorities and the public to discuss ways to improve the quality of the village, growing aspirations in the community and the welfare of society as well as the harmony between the company and the community	Every six months	Humas & CSR Team
10	Social jealousy	<ul style="list-style-type: none"> Origin workers absorbed within the company The presence of new economic activities involving all citizens Potential social impact arisen from social jealousy of community that does not own "kebun kemitraan" 	Employment for local employment and job vacancies openly expressed either through village officials / district as well as through announcements / media in order to get to a remote village. Communicate with other surrounding entities about kemitraan program for Community. Define possible CSR Program for Alternative Economic Empowerment for community that does not own kebun kemitraan.	Once every six months	Estate Manager, HR Manager
11	Accident and health	<ul style="list-style-type: none"> The use of tools and safety and health at work The number of patients at the clinic as a result of occupational accidents and diseases caused by the activities of the management of oil palm plantations 	To identify accidents and diseases caused by the activities of plantation and mill management, regarding the type and frequency of discussion with authorities / villagers about the solution that will be applied	Every six months	EHS Manager

Table 6. Management and mitigation measures for Environmental Impact Assessment of the Pre-Construction Phase

No	Impact	Source of Impact	Location	Mitigation	Time Frame	Person In Charge
1	Social Unrest	Their land acquisition associated with the land owned by indigenous communities	Communities around the estate	<p>a. FPIC Training & SOP Conduct FPIC Training by Qualified Person based on FPIC Guidance for RSPO member that was Endorsed by the RSPO Board of Governors on 20 November 2015. Land Acquisition SOP should include the FPIC process.</p> <p>b. Technology approach</p> <ul style="list-style-type: none"> - Make a definitive boundary and inventory of public lands that are included in the Plantation as well as gardens and paddy fields of enclave community - Convention on community land and grow crops - Inventory tenure of affected communities and implement the compensation agreed to by both parties - Do not disturb the land that became the main source of people's livelihood such as rubber plantations and rice fields <p>c. Socio-Economic Approach</p> <ul style="list-style-type: none"> - Perform proactive approach and intensive socialization to the community leaders and citizens - To disseminate sustainability and implement programs for continuous CD - Allocate funding for the dissemination of plantation activity plan to be implemented - Implement community development (CD) in order to increase the capacity of the community, among others implement: training and skills in both the agriculture and non-agriculture, facilitate the 	During construction	Humas Manager

				<p>establishment / strengthening of credit institutions in order to improve people's access to capital, and develop the potential of other communities in accordance with the potential local natural resources or by growing aspirations of the local community and others</p> <p>d. Institutional approach</p> <ul style="list-style-type: none"> - Participate in forming village institutions responsible for the distribution of the impact of social unrest related to the existing activities currently being undertaken in the future - Establish a community development organization in the organizational structure of PT. Andes Sawit Mas - Establish a village institutions and community development agencies - CD program involving village officials and community leaders 		
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Table 7. Management and mitigation measures for Environmental Impact Assessment of the Construction Phase

No	Impact	Source of Impact	Location	Mitigation	Time Frame	Person in Charge
1	Potential Fire on Land	Land Clearing	Plantation area	<p>a. Technology approach</p> <ul style="list-style-type: none"> - Forming special teams (task force) to suppress fires - Creating a water reservoir and the fire control tower to tackle forest fires - Providing facilities and infrastructure for firefighters - Opening without fuel <p>b. Socio-Economic Approach</p> <ul style="list-style-type: none"> - Extension to the public about the dangers of fire 	During the activity, and continuously (during the construction period and production)	Estate Manager

				<ul style="list-style-type: none"> - Build partnerships in the community post - Consult the relevant agencies - Involving the community in order to prevent fires <p>c. Institutional approaches (institutional)</p> <ul style="list-style-type: none"> - In cooperation with the Department of Forestry and Plantation Ketapang in managing fire in the plantation - Establish a task force of firefighting unit and complete with the facilities and infrastructure 		
2	Increased Rate of Soil Erosion	Land clearing and road construction	Areal sloped 15-25% and the road network	<p>a. Technology approach to Making Roads</p> <ul style="list-style-type: none"> - The road is made slightly convex and on the right side of the road made a trench (drainage) - Plant a cover crop (Land Cover) along the roadside to reduce the rate of soil erosion surface <p>Land-Clearing</p> <ul style="list-style-type: none"> - Plant a cover crop (Land Cover) to reduce the rate of soil erosion surface - Establish individual terraces and rorak to reduce the speed of surface runoff and erosion - Making the drainage channel (primary, secondary and tertiary) - Cultivated land clearing activities are not carried out during the rainy season and done gradually <p>b. Socio-Economic Approach Making Roads</p> <ul style="list-style-type: none"> - Inventory road, the road has slopes above 8% - Testing the erosion rate 	During the construction and operation phases	Estate Manager

				<ul style="list-style-type: none"> - Conducting outreach to the community around the plantation on the importance of soil and water conservation - Provide access to use the road so that the road becomes congested (small erosion) - Installing nets sedimentation on the sloping road <p>Land-Clearing</p> <ul style="list-style-type: none"> - Inventory the land that has a slope above 8% - Continuous Extension to the public about the dangers of erosion on soil fertility and erosion prevention methods - Conducting ongoing outreach to the community in and around the gardens of the importance of soil and water conservation <p>c. Approach institutions (Institutional)</p> <ul style="list-style-type: none"> - Establish a unit of the division of environmental and community development. Working closely with the relevant agencies to co - equal implement environmental management - Ask for help related agencies in minimizing the rate of soil erosion 		
3	Decrease River Water Quality	The opening of roads and land clearing, and nurseries and plant maintenance immature	Street gardens, nurseries and maintenance immature (TBM)	<p>a. Technology approach</p> <p>Making Roads</p> <ul style="list-style-type: none"> - Maintaining riparian conservation area and planted with a cover crop - Maintaining waterways / drainage - Ban on tree cutting on conservation area <p>Land clearings</p> <ul style="list-style-type: none"> - Conducting clearance not in the rainy season 		Estate Manager

				<ul style="list-style-type: none"> - Maintaining riparian conservation area and planting cover crop - Ban on the felling of trees in conservation areas close to river border. <p>Nurseries and maintenance of Generating Plant (TM)</p> <ul style="list-style-type: none"> - Conducting spraying pests and diseases in the dry season - Wear a mask when spraying according to SOP - Use of fertilizers Soil Sub Application method <p>b. Socio-Economic Approach</p> <ul style="list-style-type: none"> - Provide training to the community - Together contribute to maintain the conservation area - To assist in the provision of clean water (wells) - Companies approached the CD programme - Provide periodic health checks for employees at the plant maintenance <p>c. Institutions (Institutional) Approach</p> <ul style="list-style-type: none"> - To coordinate with agencies - Briefing to employees on competence and conservation of the environment - In cooperation with relevant agencies to implement environmental management - Establish a unit of the division of environmental and community development in the organization plantations and palm 		
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				oil mills of PT. Andes Sawit Mas - Working with Agusjam Hospital at Ketapang for blood sampling part of plant maintenance		
4	Decrease in Population Species Diversity and Flora and Fauna Protected Land	Land clearing	Entire forests, conservation areas, including forest riparian corridor	<p>a. Technology approach</p> <ul style="list-style-type: none"> - Relocate the flora and fauna are protected in the safer habitat - Making the announcement boards and extension of ban on employees and the local community to not cut or hunting of protected flora and fauna - To protect flora that have economically and ecology value - Re-planting and maintaining the type of vegetation / flora that have ecology function - Perform LCC planting on oil palm plantations, with woody plants Leguminosae - Provides conservation areas for protected flora and fauna - Not disturb the Protected fauna - Not cut down protected flora <p>b. Socio-Economic Approach</p> <ul style="list-style-type: none"> - Facilitating citizens for flora planting - Conducting a persuasive approach to the society that activity caused the loss of protected species and ecology is prohibited - Involving the public and companies collaborate with Conservation of Natural Resources institution (BKSDA) to alleviate the impact 		Estate Manager, Sustainability Manager

				<ul style="list-style-type: none"> - Requests assistance to the government for tackling an important environmental impacts due companies limitation. - Prohibit employees to hunt and maintain protected fauna - Encourage people to plant Gamal, sengan, Angkaras, Jati and cepu in the community garden and an enclave area by providing seed and planting guidance <p>c. Institutions Approach (Institutional)</p> <ul style="list-style-type: none"> - Participate in forming village organizations or environmental management division - Coordination with the various relevant technical agencies - Working with Government Agencies and Universities for implementation of environmental management - Establish an organizational unit for environmental management and monitoring in the organization of plantations and palm oil mills and Community development of PT. Andes Sawit Mas 		
5	Social unrest	Recruitment	Villages in and around the plantation area	<p>a. Technology approach</p> <ul style="list-style-type: none"> - Conducting open Selection for employee recruitment - Provide masks for employees on duty at the time of Nursery - Conducting training for new employees to improve their skills, capabilities and professionalism 	During construction	HR Manager

				<p>b. Socio-Economic Approach</p> <ul style="list-style-type: none"> - Dissemination in continuously basis to employees about work discipline, and health safety and security - Provide incentive for employees excellence <p>c. Institutional approach</p> <ul style="list-style-type: none"> - Participate in the forming of village institutions that responsible to the impact spreading and social problem in related to the current activities undertaken and future activities - Implementation of the CD program involving the relevant agencies, district, village administration, the village council, cooperatives and local community leaders 		
6	Employment opportunities and incomes	All the activities of the plantation project at the stage of construction	Villages that have been in the scope of the study area boundary	<p>a. Technology approach</p> <ul style="list-style-type: none"> - Provide an opportunity for people who are directly affected from plantation activities in accordance with prescribed qualifications - Provide training, guidance, effort and capital on affected communities, the new business opportunities, outside the agricultural sector - Participate in providing and completing facilities and economic infrastructure <p>b. Socio-Economic Approach</p> <ul style="list-style-type: none"> - Prioritizing to the citizens affected - Provide training to improve the skills of the workforce and entrepreneurship 	Do once on the construction phase	Estate Manager, HR Manager

				<ul style="list-style-type: none"> - Provide socialization of salaries of employees for the positive use - Provide information on job opportunities in a transparent manner <p>c. Institutions Approach (Institutional)</p> <ul style="list-style-type: none"> - Participate in forming village organizations or environmental management division and Community Development by the company - To coordinate with the local villagers to the partnership program and Community Development 		
7	Public health	Their Mobilization of heavy equipment and clearing and maintenance of nurseries and immature (TBM)	Oil palm plantation and watersheds	<p>a. Technology approach for Mobilization of heavy equipment</p> <ul style="list-style-type: none"> - Maintenance of heavy equipment and periodic examination - Using technology reduces sound / noise - Wastewater from workshops vehicle in the form of used oil is collected in drums and taken up by the licensed oil collector - Mobilization of the devices are set at regular intervals - Watering of the dusty road at the time of mobilization <p>Land-Clearing</p> <ul style="list-style-type: none"> - Checking the health of employees regularly to health centers or clinics owned by the company - Reduce the place, and breeding of mosquitoes - Making the public toilets that could be a Sanitary toilet or pit by adapted Cover following to people's choice (To Change 	Every day and reported every 3 months during the construction period	Estate Manager, EHS Manager, Company Doctor

				<p>habits get toilet in the river or the gardens into the appointed place)</p> <ul style="list-style-type: none"> - Conduct periodic spraying to eradicate mosquitoes and larvae - The provision of clean water in tune with the existing ground water level - Increase the frequency of regular health services to rural communities that potentially affected - Strictly supervise the disposal of wastewater that has undergone first processing - Supervise the quality of air and river water quality <p>b. Socio-Economic Approach</p> <ul style="list-style-type: none"> - Facilitating citizens who wish to complement the health infrastructure and environmental sanitation - Routine Socialization of health and safety in plantations - The application of sanctions for violations of occupational health and safety regulations <p>Nursery Maintenance and immature area (TBM)</p> <ul style="list-style-type: none"> - Use of recommended pesticides - Spraying is not carried out in the rainy season - Spraying according to SOP - Make the channel that will accommodate the fertilizer residue of nursery and reusable <p>c. Institutions Approach (Institutional)</p>		
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				<ul style="list-style-type: none"> - Company clinic also available for community for treatment, in collaboration with the Agusjam hospital for blood sampling of employees who in plant maintenance - To coordinate with clinic / health center in an effort to cope with all the local disease that often appears in public - Establish an organizational unit management and environmental monitoring in the organization plantations and palm oil mills of PT. Andes Sawit Mas - In cooperation with relevant agencies to work together to implement environmental management 		
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Table 8. Management and mitigation measures for Environmental Impact Assessment of the Production Phase

No	Impact	Source of Impact	Location	Mitigation	Time Frame	Person In Charge
1	Decrease in Water Quality	<ul style="list-style-type: none"> - Production & Processing Activities - Oil Palm Upkeep 	<ul style="list-style-type: none"> - Tempayak River - Kendawang an River - Perigi River/ Kiri River - Selemba River - Menjahawan River 	<ul style="list-style-type: none"> a. Technology approach <ul style="list-style-type: none"> - In house keeping - Wastewater Treatment Plant (WWTP) - Tackling the incidence of pests (flies) b. Socio-Economic Approach <ul style="list-style-type: none"> - Assisting community health services - Procurement of water sources (wells) for public water c. Institutional approach <ul style="list-style-type: none"> - Working with government agencies (local government Ketapang and local government in West 	During Palm Oil Processing Plant PT. Andes Sawit Mas Operation	Mill Manager

				<p>Kalimantan) and University to implement environmental management.</p> <p>Plantations and palm oil processing factory PT. Andes Sawit Mas act as executor and authorized agencies act as a Supervisory functions.</p> <ul style="list-style-type: none"> - Establish organizational unit Management and environmental monitoring in the organization of plantations and palm oil mills of PT. Andes Sawit Mas - Monitoring of the implementation of water quality management by the relevant authorities - Reporting on the results periodically to related institutions 		
2	Social unrest	Oil Palm Upkeep and Mill Operational	People in the surrounding gardens	<p>a. Technology approach</p> <ul style="list-style-type: none"> - Provide a mask for upkeep employees - Spraying herbicides in dry season and not use herbicides on the outskirts of the drainage - Fertilizing with sub soil application <p>b. Socio-Economic Approach</p> <ul style="list-style-type: none"> - To disseminate continuous Socialization <p>c. Institutional approach</p> <ul style="list-style-type: none"> - Establish an institution that would accommodate the village/channel public complaints which cooperated with relevant agencies 	During mill operation and oil palm plantation operation	Mill Manager
3	Employment opportunities and incomes	Labor resources absorbed from the production stage	Villages that have been in the scope of the study area boundary	<p>a. Technology approach</p> <ul style="list-style-type: none"> - Provide opportunities for people directly affected by the activities in 	Done once at the construction phase	HR Manager

				<p>accordance with prescribed qualifications</p> <ul style="list-style-type: none"> - Provide training, guidance and capitalization efforts for affected communities, regarding new business opportunities, outside the agricultural sector - Participate in providing and completing the facilities and economic infrastructure <p>b. Socio-Economic Approach</p> <ul style="list-style-type: none"> - Prioritizing to affected community - Provide training to improve the skills of the workforce and entrepreneurship - Provide socialization of salaries to employees for the positive and constructive use - Provide information on job opportunities in a transparent manner <p>c. Institutional approach</p> <ul style="list-style-type: none"> - Participate in forming village organizations or environmental management division and Community Development by the company - Coordination with the local village for the partnership programme and Community Development 		
4	Decrease of Public Health	Their plant operations, fertilizer and pesticides and transport of production	<ul style="list-style-type: none"> - Plantation area - Watershed 	<p>a. Technology approach</p> <ul style="list-style-type: none"> - Providing health services to people who are associated with disease vectors - Improving health services to rural communities affected - Managing the polluted source 	Every day and every 3 months are reported in the period of production	Company Doctor

				<ul style="list-style-type: none"> - Provide counseling to workers about the importance of EHS - The use of herbicides and fertilizers according to SOP <p>b. Socio-Economic Approach</p> <ul style="list-style-type: none"> - Encouraging and providing incentives to the community to complement the means to support the improvement of health and environmental sanitation <p>c. Institutional approach</p> <ul style="list-style-type: none"> - Dissemination to the public to maintain cleanliness and environmental sanitation - To coordinate with local health clinic 	
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3.2. Summary of HCV Management and Mitigation Plans

The result of HCV assessment that carried out by Daemeter Consulting in 2015 shows that there is no primary forest in new planting areas of inti. New planting areas are within classification of other land-use. Based on LUCA in PT. ASM, result also shows that there is no primary forest in the new planting areas. The satellite imagery showed that scrub, bare soil, secondary regrowth and mixed agriculture are the dominant land cover.

The HCV assessment was conducted by Daemeter Consulting on January – November 2015 using HCV Toolkit year 2008, published by The Consortium Revised HCV Toolkit Indonesia as a guidance to assess the presence of HCV area in concession of PT. ASM, HCVRN, 2013, Common Guidance for the identification of High Conservation Values and HCVRN, 2014, Common Guidance for the management and monitoring of High Conservation Values.

The assessment identified 5 types of HCV in entire PT. ASM and provides recommendation for the company in managing the HCV area present within the concession area, also to enable all the available resources to be focused, integrated and effective achieving the HCV management outcome.

The purpose of management and monitoring plan of HCV are :

- To ensure all the identified HCV and all area that assigned as HCV are protected and managed well, so that the HCV functions are well preserved.
- To enhance the administration and documentation of the management and monitoring in the sense that the process carried out is more systematically according

to the legal aspects.

The basic programs and activities that fulfill the HCV management are summarized as table below :

Table 9. Identification of HCV areas and proposed measure

HCV	Finding	Threat		Management Recommendation	Monitoring Recommendation
		Source	Type		
HCV 1 – Globally, regionally, or Nationally Significant concentrations of biodiversity Values	Present	<ul style="list-style-type: none"> • The Company • Neighbouring companies • Local community 	<p>Current</p> <ul style="list-style-type: none"> • Conversion of forest and swamp area to small scale agriculture (<i>ladang</i>) and palm oil (VERY HIGH) • Community wildlife exploitation (HIGH) • Timber extraction (HIGH) • Loss of water quality in rivers due to nutrient leaching / fertiliser & pesticide runoff to the river (VERY HIGH) <p>Potential</p> <ul style="list-style-type: none"> • Increased hunting pressure in HL and forest remnants in the AOI (HIGH) • Pollution by domestic or household waste (e.g., plastic) (HIGH) 	<ul style="list-style-type: none"> • Designate the non – rubber dominated agroforestry system as “low development” area • Maintaining connectivity and buffer of natural areas in the plantation with the Hutan Lindung (HL) to avoid land encroachment. Riparian buffers also need to be maintained for its quality preservation. • Clear company policy on HCV and HCVMA • HCV Socialization and delineation of HCVA and HCVMA to local community and internal ASM • Develop internal policy /SOP to protect RTE (rare ,treathened, and Endangered) species. Policy/SOP will be socialized to internal workers and local people. 	<ul style="list-style-type: none"> • Monitor HCV 1 species population in HCVMA • Monitor forest corridor adjacent to HL to protect wildlife habitat, along with riparian forest and swamp area • Community surveys to monitor trend in hunting effort and success • Mapping of any further clearing and applicable restoration / rehabilitation activities within HCVMA • Monitor river preservation effort and patrol effectiveness • Measurement of canopy closure and tree growth within HCVMA • Use of monitoring results to adapt management recommendations in the future

				<ul style="list-style-type: none"> • Law enforcement and biodiversity protection from hunting / wildlife trade. Targeted socialization needs to be performed to local hunters and ASM workers. Although hunting is sporadic, on going socialization is necessary to gradually reduce hunting and alter hunting practices. • Prevention of illegal logging or unsustainable community logging • Periodic patrols along river banks to preserve river areas • Restoration and rehabilitation of degraded local protected areas (e.g., riparian zones) • Further identification of threatened species. For example herpethofauna, eventually, precautionary management by including the species in the education material and good water management (riparian buffers, 	
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				<p>maintain water quality, reduce hunting) should be included in the management and monitoring plan.</p> <ul style="list-style-type: none"> • Observation on migratory birds in the riparian zones and swamp area during migration seasons. Follow-up management plan to prevent hunting and wetland damage if migratory birds observed in significant quantities (as identified by an ornithologist that has specialized knowledge in migratory birds). 	
HCV 2 – Important Natural Landscapes & Processes	Absent	No Required	No Required	No Required	No Required
HCV 3 – Rare Or Endangered Ecosystems	Present	Threats, management and monitoring follow HCV 1, as HCV 3 areas, which all remain natural habitats in the AOI, are habitat for HCV 1 species.			
HCV 4 – Areas providing basic services of nature	Present	<ul style="list-style-type: none"> • Local communities • The Company 	<p>Current</p> <ul style="list-style-type: none"> • Loss of remaining riparian buffers (VERY HIGH) • Water pollution due to agrochemical application (VERY HIGH) • Loss of drinkable water supply 	<ul style="list-style-type: none"> • Areas important for regulation of hydrological processes are managed to maintain normal hydrological functions, and where feasible to restore them where they have been degraded or eliminated. • Riparian buffer restoration based 	<ul style="list-style-type: none"> • Measurement of land use change in riparian areas especially regarding river straightening. • Measurement of forest re-growth in riparian areas, especially where restoration

			<p>downstream (VERY HIGH)</p> <ul style="list-style-type: none"> • Poor construction of roads, bridges and drains (HIGH) • Deterioration of hydrological function, specifically river straightening, re-engineering of <p>conversion to oil palm (VERY HIGH)</p> <ul style="list-style-type: none"> • Operational company activities, leading to silting of rivers, reduction of surface water discharge, increased erosion rates, damage to infrastructure (roads) due to use of equipment and heavy vehicles (VERY HIGH) <p>Potential</p> <ul style="list-style-type: none"> • Lack of understanding of erosion potential by The Company's staff and steps to be taken to mitigate erosion (LOW) 	<p>on recommended widths listed in under HCV 4.1</p> <ul style="list-style-type: none"> • Ensure all roads, drains, bridges and other earthworks are properly constructed and maintained. • Conduct a consultation b a third party regarding river straightening with impacted local community. A scheme to compensate this issue might need to be discussed through FPIC process (participatory mapping). • Develop SOPs based on best management practices in oil palm plantations, such as land clearing management with ground cover establishment and road development to prevent erosion. • Implementation of SOPs relating to road building and maintenance and water quality. • Measurement of land use change in riparian areas. 	<p>activities are undertaken</p> <ul style="list-style-type: none"> • River and stream water quality and quantity monitoring (before-after, control-Impact method should be used and results made readily available to communities, or monitoring done in conjunction with). • Reporting of damage and subsequent repair of earthworks. • Monitor the success of community engagement initiatives to reduce environmental impacts (e.g., encroachment into riparian areas) • Establish structured, recurring surveys of community perceptions of water quantity and quality • Monitor the success of community engagement initiatives to offset environmental
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			<ul style="list-style-type: none"> • Lack of water quality and quantity as forest degraded and ecosystem service provision decreased (erosion and flood control) (LOW) • Soil Erosion through land clearing and roads on steep slopes (LOW) 	<ul style="list-style-type: none"> • Reporting of damage and subsequent repair of earthworks 	<p>impacts (e.g., encroachment into riparian areas)</p> <ul style="list-style-type: none"> • Use of adaptive management to evaluate and adjust management and monitoring activities as necessary
HCV 5 - Natural Resources Critical for Meeting Basic Needs of Local People	Present	<ul style="list-style-type: none"> • The Company • Local Community 	<p>Current</p> <ul style="list-style-type: none"> • Company operations (e.g., land clearing, and clearance of riparian strips and riverbank) within concession affecting rivers as the source of fish and water (VERY HIGH) • Conversion of forest and swamp area to small scale agriculture (<i>ladang</i>) and palm oil by community (VERY HIGH) • Hunting carried out by community and ASM staffs (VERY HIGH) <p>Potential</p>	Management and monitoring follow HCV 1 and HCV 4	

			<ul style="list-style-type: none"> Over harvesting on <i>Schima wallichii</i>/Pena ga Keruing, which is used for construction materials, (LOW) 	
HCV 6 - Areas and Species critical to local communities' Traditional Cultural Identity	Present	<ul style="list-style-type: none"> The Company Local Community 	<p>Current</p> <ul style="list-style-type: none"> Disturbance of / damage to sacred sites (jumpung), cultural sites or cemeteries by company operational activities (MEDIUM) Potential Disturbance of cultural or burial sites, sacred sites (jumpung), cultural sites or cemeteries through future conversion or existing plantation operations (HIGH) Disturbance of / damage to sacred sites (jumpung), sacred sites, cultural sites or cemeteries by community clearing activities for fields (<i>ladang</i>) (MEDIUM) 	<ul style="list-style-type: none"> Where allowable by the community, demarcate HCV 6 areas in the field, important cultural site areas must be clearly marked on the ground to ensure that disruption to the site does not occur SOPs need to be made for activities related to protecting HCV 6 areas. Field staff awareness on HCV 6 should be performed as well as other communities, which potentially unaware of their presence. SOP should include community member oversight during any land clearing activities The Company needs to document and set buffer zones surround cultural

				<p>sites. This could be done by marking HCVA 6 on all operational maps and stored in Company GIS</p> <ul style="list-style-type: none"> • The company must get written consent and ratification by the community involved if operational activities have potential effects on HCV 6 areas 	
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4. Internal Responsibility

This document is summary of assessment result of HCV, SIA and AMDAL of PT. Andes Sawit Mas and has been approved by the management of PT. Andes Sawit Mas.

Date : 25 May 2016

Management PT. Andes Sawit Mas



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