

New Planting Procedure - Summary of Assessments

 RSPO <small>Roundtable on Sustainable Palm Oil</small>	 MUSIM MAS	 CONTROLUNION
NPP Reference Number:	CU-884206-NPP	
Country of the NPP submission:	Indonesia	
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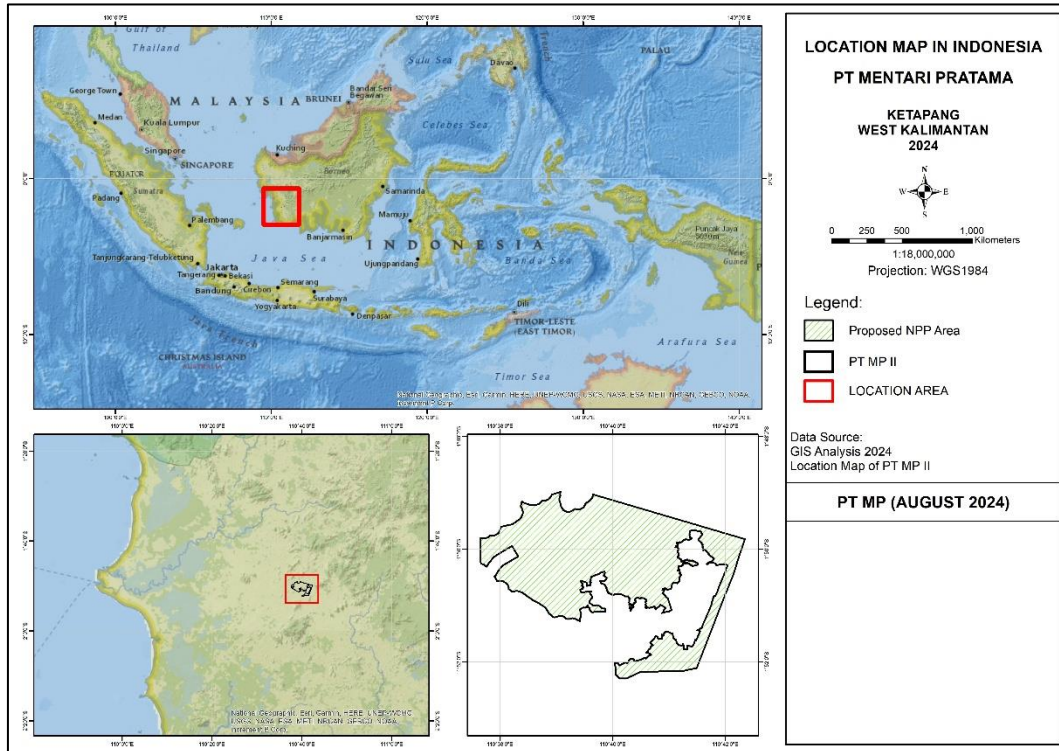
Section 1: General Information

PT Mentari Pratama (PT MP) is part of the Musim Mas Holdings Pte Ltd. which has been a member of the RSPO since 5 September 2004. PT. MP is a partially developed plantation. Planting in the existing concession started in 2015, preceded by PT MP's 2012 NPP Assessment. The additional proposed NPP area is an extension to the company's existing concession. This New Planting Procedure submitted for new development plans in the extension area, which later in this document will be referred as PT Mentari Pratama II (PT MP II).

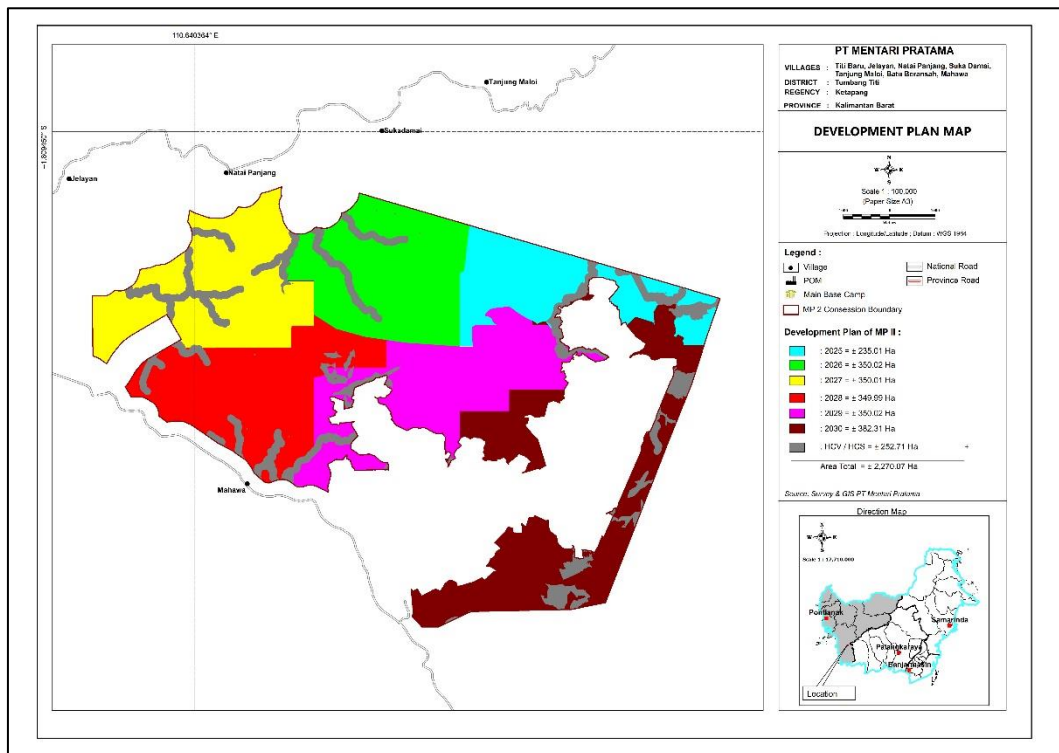
PT MP II operational area is within the administrative area of Ketapang Regency, West Kalimantan Province, Indonesia. PT MP II operational area is 2,270.07 ha. The legal basis for management rights over land and plantation business activities in PT MP II operational areas consists of Location Permit (Persetujuan Kesesuaian Kegiatan Pemanfaatan Ruang/PKKPR) through Ketapang Regent's Decree Number 28102210216104024 dated 13 October 2022 with total area 2,270.07 ha, and plantation business license (Perizinan Berusaha Berbasis Risiko) issued through Decree from the Ketapang Regent's Number 81202141824820003 dated 14 June 2023 with total area ± 2,269 ha. In relation to the social context, areas in the new development plan will be freed from community ownership/rights before the activity new developments are implemented. The company collaborates with external parties to carry out several assessments required in the NPP, including SEIA, HCV-HCS and FPIC. Besides, there is several assessments conducted by an internal, including Soil & Topography Survey, LUCA and GHG.

The area proposed for new development is within the scope of the PT MP II concession area. The area proposed for new development is 2,017.36 ha (88.87% of PT MP II operational area). The proposed time plan for implementing land clearing for new development is a 6 years period between 2025 to 2030, assuming the NPP process has been completed in second half of 2024.

Section 2: Maps



Location of Boundary and Proposed NPP area Maps owned by the PT MP



Development Plan of Proposed NPP area PT MP

Development plan of PT MP

Concession Area	Proposed new planting areas by development plan 2025-2030 (ha)	HCV and HCS areas (ha)	Total area (Location Permit/PKKPR) (ha)
PT Mentari Pratama II	2,017.36	252.71	2,270.07

Section 3: SEIA

Environmental Impact Analysis (UKL-UPL) for the Development of PT MP II's Palm Oil Plantation and Processing Factory

Date of assessment: March – April 2023

Name of Assessor: Zulkifli, S.P., M.Si., Novian Sufriany, S.E., M.E., and Mi'rajudin, S.T.

Assessor Designation and Company: Independent Consultant / PT PUSKOTLING Indonesia

Methodology

The Environmental Impact Study uses the following approaches:

1. Secondary data collection through literature review
2. Data collection by observation and field orientation
3. Data collection by observation
4. Data collection with laboratory analysis
5. Collecting data and information through public hearings and focused group discussions

The study investigates the possible environmental impacts of the company in the following stages:

- A. Pre-construction
- B. Construction
- C. Operations
- D. Post-operations

Findings

These are the possible environmental impacts during various stages of the company:

A. Pre-construction

Source	Type of Impact	Scale of Impact
Permit submission	-	-
Activity Announcement	Public perception and attitudes	Communities in the vicinity of Titi Baru Village, Jelayan, Natai Panjang, Suka Damai, Tanjung Maloi, Batu Beransah and Mahawa, Tumbang Titi District.
Boundary Marking and Land Acquisition	Public perception and attitudes	Complaints and grievances from land owners in the villages of Titi Baru, Jelayan, Natai Panjang, Suka Damai, Tanjung Maloi, Batu Beransah and Mahawa.

B. Construction

Source	Type of Impact	Scale of Impact
Construction Workforce Recruitment	Increased employment opportunities	58 outsourced-daily-workers and permanent workers
Mobilization of Operational	Air quality deterioration	Decrease in ambient air quality of the following parameters: Sulfur Dioxide (SO ₂), Carbon Monoxide

Equipment and Vehicles		(CO), Nitrogen Oxide (NO ₂), Ozone (O ₃), Hydro Carbon, Dust (TSP), Lead (Pb), Particulate matter <10 units of PM 10 and Particulate matter < 2.5 units of PM
	Increased noise	Increased noise to > 55 dB(A)
	Road traffic disruption	Entrance and exit of the plantation construction site.
Land Clearing and Preparation	Water quality deterioration	Pesaguan River and Titi Bayur River water in the PKKPR area of PT. Mentari Pratama
	Increased erosion rate	Increased run off during rainfall
	Air quality deterioration	Decrease in ambient air quality of the following parameters: Sulfur Dioxide (SO ₂), Carbon Monoxide (CO), Nitrogen Oxide (NO ₂), Ozone (O ₃), Hydro Carbon, Dust (TSP), Lead (Pb), Particulate matter <10 units of PM 10 and Particulate matter < 2.5 units of PM
	Increased noise	Increased noise to > 55 dB(A)
	Decrease in flora and fauna diversity	Land clearing of areas
	Wildfire	Land clearing and preparation areas for nucleus/grower's and plasma/smallholder's plantation.
	Increase in the volume of Toxic and Hazardous Waste	Toxic and Hazardous Waste coming from maintenance of heavy equipment, stored in the 6m × 12m Temporary Disposal Site
Development of Plantation Facilities and Infrastructure	Water quality deterioration	Pesaguan River and Titi Bayur River water in the PKKPR area of PT. Mentari Pratama
	Air quality deterioration	Decrease in ambient air quality of the following parameters: Sulfur Dioxide (SO ₂), Carbon Monoxide (CO), Nitrogen Oxide (NO ₂), Ozone (O ₃), Hydro Carbon, Dust (TSP), Lead (Pb), Particulate matter <10 units of PM 10 and Particulate matter < 2.5 units of PM
	Increased noise	Increased noise to > 55 dB(A)
	Decrease in flora and fauna diversity	Development of plantation facilities and infrastructure
Oil Palm Planting	Worker health	30 outsourced daily workers

C. Operations

Source	Type of Impact	Scale of Impact
Operational Workforce Recruitmen	Increased employment opportunities	55 outsourced-daily-workers and permanent workers
	Increase in the volume of Toxic and Hazardous Waste	Toxic and Hazardous Waste from office activities in the form of electronic waste, used toner, and used ink package, stored in the 6m × 12m Temporary Disposal Site
Oil Palm Maintenance	Pest and disease	Planted area of grower and smallholders
	Worker health	30 outsourced daily workers

	Water quality deterioration	Pesagan River and Titi Bayur River water in the PKKPR area of PT. Mentari Pratama
	Wildfire	Land clearing and preparation areas for nucleus/grower's and plasma/smallholder's plantation.
Harvesting and Transportation of FFB	Decrease in air quality	Decrease in ambient air quality of the following parameters: Sulfur Dioxide (SO ₂), Carbon Monoxide (CO), Nitrogen Oxide (NO ₂), Ozone (O ₃), Hydro Carbon, Dust (TSP), Lead (Pb), Particulate matter <10 units of PM 10 and Particulate matter < 2.5 units of PM
	Increased noise	Increased noise > 55 dB (A)
	Road traffic disruption	Main road and access road to POM
	Increase in the volume of Toxic and Hazardous Waste	Toxic and Hazardous Waste coming from plantation activities, operational activities, and vehicle maintenance, stored in the 6m x 12m Temporary Disposal Site
Replanting	Wildfire	Replanting areas for nucleus/grower's and plasma/smallholder's plantation.

D. Post-operations

Source	Type of Impact	Scale of Impact
Work termination	Decrease in employment opportunities	55 outsourced-daily-workers and permanent workers
Handling of movable and fixed assets	Road traffic disruption	Entrances and exits, as well as access roads used by vehicles transporting assets
	Air quality deterioration	Decrease in ambient air quality of the following parameters: Sulfur Dioxide (SO ₂), Carbon Monoxide (CO), Nitrogen Oxide (NO ₂), Ozone (O ₃), Hydro Carbon, Dust (TSP), Lead (Pb), Particulate matter <10 units of PM 10 and Particulate matter < 2.5 units of PM
	Increased noise	Increased noise to > 55 dB(A)
	Wildfire	Nucleus/grower's and plasma/smallholder's plantation.
Land Restitution	-	-

Social Impact Assessment (SIA) for the Development of PT MP II's Palm Oil Plantation and Processing Factory

Date of assessment: January 2023 – February 2024

Name of Assessor: Jules Crawshaw and Daryatun Ridwan

Assessor Designation and Company: Independent Consultant / PT Hijau Daun

Methodology

Scoping Study

The objectives of the scoping study were to identify the project's area of influence, available information and initial stakeholder concerns. This enabled the assessor to identify information gaps, high priority issues and to inform the methodology for the full assessment and the team required.

The scoping study took place in between 3 – 9 July 2023. This was done by Jules Crawshaw and Atun Ridwan. This involved the following activities:

- Travelling around the assessment area in order to understand their social history, as well as the current social conditions, demographics, economics, affected communities, land cover and land use.
- Review of the secondary data that PT MP had available.
- Interviewing PT MP staff and community leaders about the social issues (especially land conflict) that are present (or have been resolved) in the area.
- Confirming the legal right to enter the area or permission to undertake studies and potentially develop the area had been obtained.
- Reviewing the documentation regarding the FPIC activities that have already taken place;
- Understanding the results of mapping of land ownership and land use and how this data could be used to negotiate areas for development and conservation with the community.
- Reviewing procedures for communication and consultation with the communities. Reviewing how these procedures were developed. Reviewing documentation of communications that had already taken place.

Full Assessment

The -full assessment took place in between 10 – 22 July 2023. This was done by Jules Crawshaw and Atun Ridwan. This involved the following activities:

- Interviewing workers about general working conditions.
- Interviewing Government representatives
- Interviewing relevant parties (representatives of affected indigenous people and local communities, and other users who are living in or using the area) from the villages and Kecamatan that overlap with the assessment area in order to :
 - o Gather demographic information
 - o Undertaking Participatory Mapping
 - o Understand the communities' awareness of plans to extend the estate
 - o Gauge the communities' perception of the impact of current oil palm development.
 - o Understand economic development and stability
 - o Understand the communities' access to government services (e.g. education, health, infrastructure)
 - o Gather information on the general background to the area including policies, programs, history / chronology of events, land claims, aspirations and solutions to problems that may have existed.
 - o Understand the dependence of community members on natural ecosystems to fulfil basic needs and identify any important cultural sites.

Table 1. Government organisations that PT Hijau Daun met with government agency

Department	Purpose
Camat Tumbang Titi	<ul style="list-style-type: none"> - Collaborations and relationship between the Kecamatan with the company. - How the company assists the community
Chairman of the Regional Customary Council	<ul style="list-style-type: none"> - Learning about the cultural side of life in the area.
Bidang Ketenagakerjaan (workforce sector)	<ul style="list-style-type: none"> - Relationship and fulfilment of the workforce responsibilities by the company.
Ketapang Regency Housing, Residential Areas and Environment Agency (DISPERKIM LH)	<ul style="list-style-type: none"> - Fulfilment of the company in handling environmental challenges. - Reporting that has taken place against the requirements of the RKL / RPL
Dinas Perkebunan (Agriculture Dept)	<ul style="list-style-type: none"> - Collaboration which has been developed with the company and the plan for development of the estate and the plasma area.
Manggala Agni	<ul style="list-style-type: none"> - Learning about the operations of Manggala Agni. - How PT MP was putting infrastructure for fire-fighting in place and collaborating with Government Agencies to prevent / put out fires.
Ketapang District Health Office	<ul style="list-style-type: none"> - Collaborations between the company and the Health Office (especially during Covid pandemic) - Reporting requirements to the health office. - Work Safety.
Balai Konservasi Sumber Daya Alam (BKSDA) Resort Kendawangan	<ul style="list-style-type: none"> - Find out about BKSDA's activities in the area. - Determine whether they have any reports of human-wildlife conflict. What they are doing to stop hunting of RTE species in the area and other enforcement related activities. - Find out if BKSDA has information about RTE species in the area.

Table 2. NGOs that were visited

NGO	Purpose
WWF – Kalimantan Barat	<ul style="list-style-type: none"> - Gathering information about the connection between the company, government and NGOs. - Understanding data that WWF has that is relevant to this area. - Learning about the projects that WWF has in the area.

Table 3. Relevant parties (self-representatives or key stakeholders of local communities, and other users that living in or using the assessment area) from villages and Kecamatan that were interviewed.

Village	Number	Self-Representative Institution and individual
Titi Baru	7	Subhan Jaya Atmaja (Kepala Desa Titi Baru)
		B. Sunarman (Tokoh Adat Dayak Titi Baru)
		Ishab (Majelis Adat Budaya Melayu Titi Baru)
		Busran (Tokoh Pemuda Titi Baru)
		Feni Ardiansyah (BUMDes Titi Baru)
		Novian Hadi (BPD Titi Baru)

		Juliantika (Perwakilan Tenaga Pendidikan Titi Baru)
Jelayan	5	Rudiyanto (Kepala Desa Jelayan)
		Kanisius Yanto (Tokoh Adat Dayak Jelayan)
		Ridwan (BPD Jelayan)
		A. Moliyato (LPMD Jelayan)
		Ali Martopo (Tokoh Masyarakat Jelayan)
Natai Panjang	11	Polonius Sudiyanto (Kades)
		Andreas Pawi (Tokoh Adat Dayak)
		Bernandus (Karang Taruna)
		Derasan (ToMas)
		E Norpili (PKK)
		H Manton (KelTan)
		Jubin (BPD)
		M Dianti (Tokoh Agama Kristen)
		P Hembu Suherman (Tokoh Agama Katolik)
		P Layati (Tenaga Kesehatan-Posyandu)
		Yulianti (Tenaga Pendidikan-SD PL)
Suka Damai	8	Yako Antonius (Kades)
		A Wina (PKK)
		Ancis (ToMas)
		Bagik (Tokoh Adat Dayak)
		Cilik (CU)
		Maria Nurmala (BPD)
		Norsiah (Tenaga Kesehatan-Posyandu)
		Odo Harianto (LPMD)
Tanjung Maloi	11	Martunis Riwan (Kepala Desa Tanjung Maloi)
		Antonius Idin (Tokoh Adat Dayak Tanjung Maloi)
		D. Usim (Tokoh Agama Katolik Tanjung Maloi)
		Dedet - Frederikus A. (Kelompok Tenaga Kesehatan Tanjung Maloi)
		Elisabet (BPD Tanjung Maloi)
		Klaudius Andi (Kelompok Karang Taruna Tanjung Maloi)
		M. Ratnawati (Kelompok PKK Tanjung Maloi)
		Markus Riwan (Tokoh Agama Kristen Protestan Tanjung Maloi)
		N. Subarman - Felix Nurdin (Tokoh Masyarakat Tanjung Maloi)
		Petrus Andi (LPMD Tanjung Maloi)
		Yohanes Amos (Kelompok Tani Tanjung Maloi)
Batu Beransah	7	Antonius Neki (Kades)
		Agata (BPD)

		Benediktus Icat (Tokoh Adat Dayak)
		Fransiskus S (Tenaga Pendidikan)
		Helina (PKK)
		Petrus Tomo (ToMas)
		Suparman (KelTan)
Mahawa	6	Aldotus. B (Kades Mahawa)
		Emiliana Lusi (BPD Mahawa)
		Musa Joni (Tokoh Adat Dayak Mahawa)
		Stefanus Saman (Tokoh Masyarakat Mahawa)
		T. Ira Irvina (Posyandu Mahawa)
		Romeos Akiong (Sekretaris Desa)

Table 4. Workers that were interviewed

Operation	Number	Purpose
Sprayers	3	To discuss general working conditions
Maintenance and harvesters	5	
Clinic	1	
Management Staff	5	To discuss policies and procedures

Information Sources

Information to describe the lifestyle and living conditions of people in the Study Area has been derived from both primary and secondary data sources. Primary data includes:

- Company Employment, health, production and other statistics;
- Notes from interviews undertaken by the company at each site.
- Social interviews with each of the affected communities
- Key Stakeholder interviews.

The primary data has been complemented by the following secondary data:

- Annual updates to the West Kalimantan Statistics from the BPS
 - Ketapang Statistics (BPS, 2023a)
 - Kecamatan Tumbang Titi Statistics
 - Oil Palm Statistics for West Kalimantan (BPS, 2021a)
 - Welfare Statistics (BPS, 2021b)
 - PTSL – Peta Tanah Sistematis Lengkap (BPN, obtained from Village headmen)
 - KSP - Kebijakan Satu Peta (PUPR, 2021)
- In-house data sets (e.g. Stand Operating Procedures, Grievances or Complaints Register)
- AMDAL for the izin lokasi area.

Secondary Data

Reviewing reports of PT MP's existing plantation, these included:

- ✓ SIA
- ✓ Participatory Mapping
- ✓ HCV and HCS
- ✓ AMDAL (current plantation)

These were particularly important as these gave an insight to how the company would develop new plantations based on its existing track record.

Standard Procedures:

- FPIC and Land Acquisition (Pelaksanaan Ganti Rugi Lahan)
- CSR and Community Development.
- Internal and External Complaints
- Staff Recruitment
- FPIC documentation (e.g. agreements, meeting notes and attendance registers)

Much of the information that was provided was cross-referenced against guidelines provided by :

- HCVRN (Brown et al., 2013)
- HCS (The HCS Approach Steering Group, 2017)
- RSPO (RSPO, 2017)

This was done in order to check for gaps in information or procedures.

Primary Data

Social Data

The necessary information was collected through a series workshops held in each community, in which community members fill in details of their customary land and resource rights and use on a prepared base map, using their knowledge of their lands and resources, and explain the underlying system they use to control, own, manage and transfer lands and resources.

During the scoping study interviews were undertaken with the following stakeholders:

- Village leaders, ordinary villagers and their representatives.
- Company staff especially those from the Sustainability Department, estate managers, workers

Combined with this, the assessor walked through the potential development area to gain an understanding of the terrain and the natural landscape that will be converted. Observations were made about the land cover, land tenure and ownership, villages, rivers and other natural habitats. This was focused on areas where natural resources were being used (e.g. tapping of rubber, fishing or cutting timber).

For the full SIA; questions were prepared for meetings at the village level to understand and evaluate :

- The current situation within the estates. Particularly with reference to :
 - o The communities' awareness of plans to extend the estate
 - o The communities' perception of the impact of current oil palm development, especially the potential impact to their land.
 - o Economic development and stability
 - o Access to government services (e.g. education, health, infrastructure)
 - o General background to the area including policies, programs, history / chronology of events, land claims, aspirations and solutions to problems that may have existed.
- The dependence of community members on natural ecosystems to fulfil basic needs and identify any important cultural sites.

It should be noted that an open invitation to the whole community was made, distributed and posted, particularly encouraging a wide range of people to attend (e.g. both men and women, people with a variety of jobs and backgrounds). Nevertheless, the community cannot be forced to come and attend the event. A total of 260 people attended (Table 6 & 7).

Table 5. FPIC undertaken by PT MP prior to the SIA

Village	FPIC Meeting		Preparation of study activities and secondary data collection (desk-top study), Preparation of Maps, Tools and Materials.		FGD Gathering primary data		Field Inspection		FGD Verification and validation of maps	
	Date	Number of Participants	Date	Number of Participants	Date	Number of Participants	Date	Number of Participants	Date	Number of Participants
Titi Baru	27 Feb 2023	26	1 - 6 May 2023	8	09 May 2023	18	10 May 2023	5	17 May 2023	3
Jelayan	1 Apr 2023	28	1 - 6 May 2023	8	12 May 2023	28	13 May 2023	8	20 May 2023	4
Tanjung Maloi	4 May 2023	53	1 - 6 May 2023	8	15 May 2023	20	16 May 2023	7	20 May 2023	5
Natai Panjang	3 May 2023	36	1 - 6 May 2023	8	17 May 2023	16	19 May 2023	7	25 May 2023	4
Mahawa	6 Mar 2023	29	1 - 6 May 2023	8	23 May 2023	19	23 May 2023	5	24 May 2023	4
Suka Damai	7 Mar 2023	26	1 - 6 May 2023	8	24 May 2023	11	24 May 2023	4	25 May 2023	4
Batu Beransah	28 Feb 2023	85	1 - 6 May 2023	8	25 May 2023	24	25 May 2023	5	26 May 2023	3

Table 6. Interview locations and numbers attending – scoping

Village	Grand Total	Date
Batu Beransah	18	5/7/2023
Jelayan	10	3/7/2023
Mahawa	5	6/7/2023
Natai Panjang	9	4/7/2023
Suka Damai	12	4/7/2023
Tanjung Maloi	13	5/7/2023
Titi Baru	12	3/7/2023
Grand Total	79	

Table 7. Interview locations and numbers attending – Full assessment

Villages	Grand Total	Date
Batu Beransah	42	22/7/23
Mahawa	29	22/7/23
Titi Baru	27	20/7/23
Jelayan	24	22/7/23
Nantai Panjang	24	20/7/23
Suka Damai	23	20/7/23
Tanjung Maloi	12	21/7/23
Grand Total	181	

Additionally 5 internal PT MP staff and workers were interviewed.

Participatory Mapping

At each village interview the communities were asked to mark up the pattern of their land use in the area. This was to ensure:

- (1) that the oil palm development did not impact on their gardening area.
- (2) if it did overlap with their gardening area that this would not force them to go and open up areas of forest elsewhere.
- (3) if there were any resources that were likely to be affected by oil palm development (e.g. hunting areas).
- (4) Who already has rights to which land as owners and users, including those with statutory rights, those with customary rights and those with informal rights.
- (5) which institutions have authority over lands, and who controls how lands are acquired, inherited and transferred.
- (6) Identifies historical / cultural sites (HCV6) and Rivers.
- (7) Identify and respect both collective (if any) and individual rights to lands and resources.
- (8) Involve communities and its neighbouring communities in mapping villages' boundary to avoid disagreements about boundaries
- (9) company has agreed maps as the basis for negotiations about proposed land use for commodity production, for community needs (including for the maintenance of livelihoods) and for conservation
- (10) Determine whether there are individual rights that nested within collective rights.



Figure 1. A feature from the A0 maps that were used for participatory mapping. Note the “mottled” circular nature of the forest cover, this is typical of landcover where shifting agriculture has been practised for many years. Annotations were made on the map to show physical features such as rivers and hills as well as land use. The information that was drawn on these maps was later digitised by the assessor.



Figure 2. Participatory mapping underway – marking in areas where water is taken for the village

Findings

Project-Induced Change and Expected Impacts

This area, not so long ago was a very isolated and traditional community. People in their 40s mention trips that now take 30 minutes to an hour in a car, when they were children required an overnight stay on the road.

The physical and social landscape in the area is changing rapidly. Change undoubtedly was occurring anyhow, but has been accelerated by the presence of MP.

Some overarching themes that are occurring in this community are :

- Sales of land to the company reduce access to game and forest and thus limit alternative livelihoods and income opportunities.
- Introduction of a market for land. Now common properties, such as forest areas where everyone could hunt, can now be sold. This has an impact on customary laws and rights.
- Changes in disease ecology – large areas of monocrops raise the risk of agricultural diseases and bring influxes of pests such as rats.
- Clean water for drinking, bathing and fisheries; which once flowed from forested watersheds, will now flow from agricultural landscapes. The level of natural filtering is nowhere near as efficient. Additionally, rivers will rise and fall a lot more quickly than they did in the past. Leading to floods and droughts occurring more regularly.
- Accelerated migration (inwards and outwards may change numbers and resilience of social institutions). This has already been seen with the transmigration programme, which brought many newcomers to the area with different cultures. However, the company employs many outsiders (35% of its workforce). Furthermore, this new development will bring more people. No problems have been reported with relations with migrant workers during the interviews, but there are always potential problems with inter-community tensions.
- Access to markets (improved road access) – will provide better access for people selling other products such as vegetables or rubber.
- Access to credit is improved. This is a double-edged sword, it facilitates development but causes increased monetization and raises the risk of increased indebtedness.
- Change to a cash economy with employment and smallholdings. Which in turn results in a transition from self-provisioning to shop bought food and goods; this impacts on local crafts and traditional knowledge.

Expected Social Impacts

Every development activity will have an impact on the society and the environment. This impact can be positive or negative. In Table 8, the positive and negative impacts of each plantation operation are listed.

Table 8. Social Impacts both positive and negative

Description	Potential Positive Impacts	Potential Negative Impacts
Development of plantations in general	<ul style="list-style-type: none">• Employment• Increased economic activity in the community• Increased access (roads, electricity, information etc.)• Increased skills of human resources• Increased security	<ul style="list-style-type: none">• Change which causes unrest and conflict• Loss of natural resources and biodiversity• Changes in environmental quality• Social jealousy in the community• Community negative perceptions• Increased crime rates• Increased frequency of fires

	<ul style="list-style-type: none"> • Increased skills and resources to put out fires • Increased new business opportunities • Cultural change • Community expectations for prosperity • Positive perception of the company 	<ul style="list-style-type: none"> • Differences in opinion that have the potential for conflict • Unfulfilled expectations for prosperity • Negative perception of the company • Newcomers to the area provide a labour force and cause friction in the community.
The compensation process related to land acquisition	<ul style="list-style-type: none"> • Injection of cash into a community where the size of the economy is quite small • Business opportunities within the plantations or from the trickle-down effect. 	<ul style="list-style-type: none"> • Land conflicts arising from less land being available, putting more pressure on the existing land bank. • People being dissatisfied with the prices paid for land. • Loss of access to natural resources • Disputes being left unresolved or not resolved to the satisfaction of all parties. • Displacement / relocation of residents. Particularly people that sell their land and use the money to buy consumer goods.
Land Clearing	<ul style="list-style-type: none"> • Opportunity for local people to be employed. • Opportunities for local businesses to partner with MP through provision of services. 	<ul style="list-style-type: none"> • River erosion and sedimentation • Decreased quality of water • Micro climate change • Floods and droughts (anecdotally the rivers fluctuate considerably more than they used to) • Decreasing biodiversity and wildlife habitat • Changes in water flow patterns (rivers / swamps) • Land conflicts • Interference with downstream agricultural activities.
Construction of infrastructure (roads, bridges, ditches, sluices, housing, factories, public facilities, dikes, etc.)	<ul style="list-style-type: none"> • Opportunity for local people to be employed. • Open road access • New infrastructure is available • Open access to transportation and communication • Opportunities for local businesses to partner with MP through provision of services. 	<ul style="list-style-type: none"> • Difficulties in adaptation to changes in modes of transportation, economy and culture, natural regime changes (ups and downs, and drainage) • Drought / flood • Irrigation water is reduced • Water pollution, air (dust) and noise
Nursery	<ul style="list-style-type: none"> • Opportunity for local people to be employed. • Transfer of skills to the local communities 	<ul style="list-style-type: none"> • Pollution of agricultural chemicals • Work accidents • Social jealousy
Planting	<ul style="list-style-type: none"> • Absorption of labor • Transfer of skills to local communities 	<ul style="list-style-type: none"> • Pollution of agricultural chemicals • Work accidents • Social jealousy

Maintenance	<ul style="list-style-type: none"> • Opportunity for local people to be employed • Transfer of skills to local communities 	<ul style="list-style-type: none"> • Pollution of agricultural chemicals • Work accidents • Social jealousy
Harvesting and transportation of fruit	<ul style="list-style-type: none"> • Opportunity for local people to be employed • Transfer of skills to local communities • Opportunities for local businesses to partner with MP through provision of services. 	<ul style="list-style-type: none"> • Increase in traffic volumes • Dust from the road • Work accidents • Social jealousy
CSR	<ul style="list-style-type: none"> • Increased development of villages / community groups • Better facilities (e.g. health clinics) and community activities • Positive perception of the company 	<ul style="list-style-type: none"> • Mismatch of company's delivery of CSR and the communities' expectations. • Social jealousy • Negative perception on the company
Partnership and plasma cooperation	<ul style="list-style-type: none"> • Income for the community • Increased institutional capacity • Positive public perception of the company 	<ul style="list-style-type: none"> • Unclear communication of how the schemes work, leading to : <ul style="list-style-type: none"> - Social jealousy - Conflict of interest - Open conflict

**Section 4: HCV-HCSA Assessment; OR
ALS HCV and Standalone HCSA assessment**

Integrated High Conservation Value and High Carbon Stock Approach Assessment Report PT Mentari Pratama

ALS Satisfactory Date Obtained (ALS HCV & HCV-HCSA assessment): July 11, 2024.

Link to the published Integrated HCV HCS Assessment Report: <https://www.hcvnetwork.org/reports/pt-mentari-pratama-and-associated-potential-smallholders>

Name of Assessor: Jules Crawshaw

ALS Number: ALS14006JC

1. Methodology

1.1. Location of the assessment

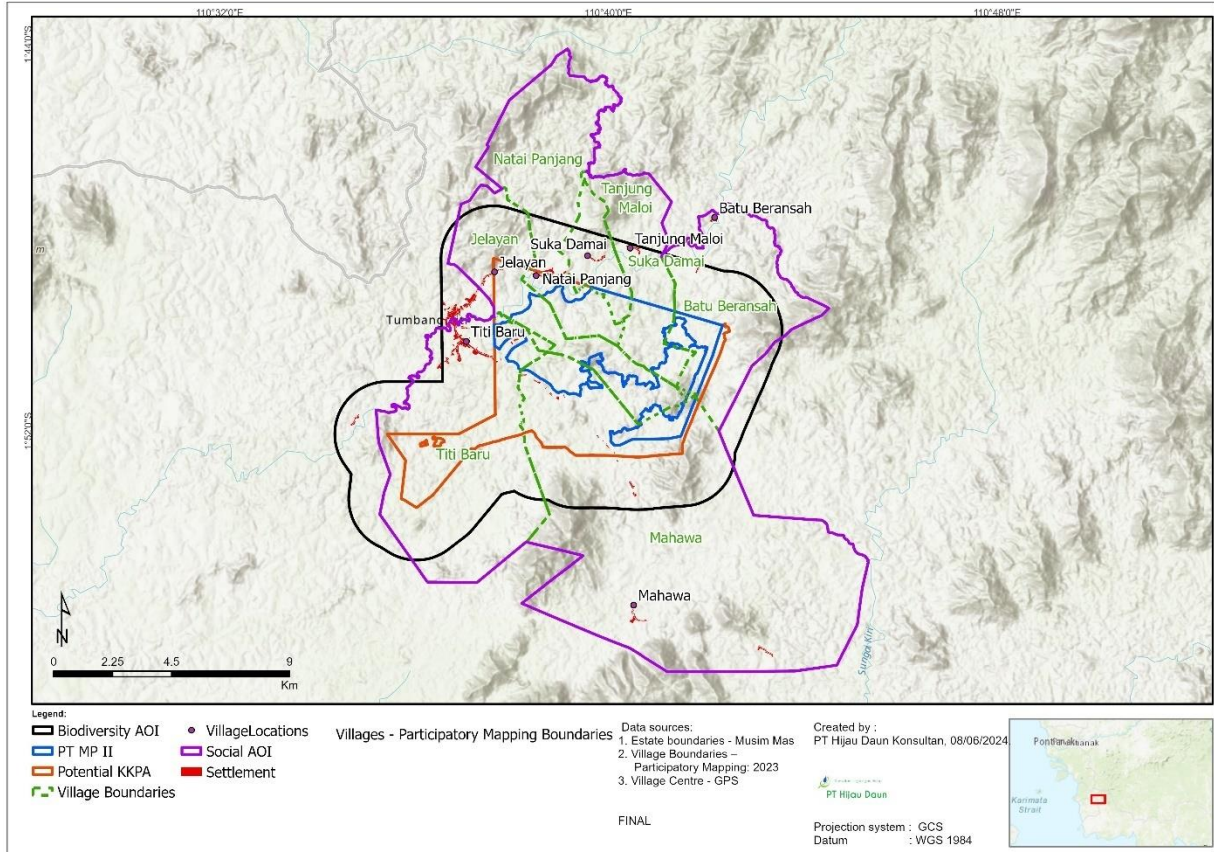
The Integrated HCV-HCS assessment was carried out in the PT MP location permit/PKKPR (2,270.07 ha) and associated potential smallholder areas (3,250.95 ha) with a total area of 5,521.02 ha. This area is located in 7 villages in Tumbang Titi District, Ketapang Regency, West Kalimantan Province.

1.2. Guidance

In this assessment, the HCVRN Common Guidance (CG) for HCV Identification is used. There is a Indonesian HCV toolkit (HCV Toolkit, 2008), however this toolkit pre-dates the CG. Therefore, the CG is used as the primary resource and unless specifically stated otherwise, it should be assumed that the CG has been used for HCV identification. HCS guidance is based on version 2 of the HCS toolkit which was released dated May 2017 (HCSA, 2017).

1.2. AOI Description

AOI (Area of Interest) assessment covers the “Biodiversity AOI” with 2 kilometers buffer from concession permit and covers the “Social AOI” is considered from the boundary of all the villages that overlap with PT MP (the largest extent of all the recognised village boundaries).



2. People involved in the process

2.1. Assessment team

Name	ALS License	HCS registered practitioner	Institution	Role	Relevant country experience
Julian Crawshaw*	Full License ALS14006JC	√	PT Hijau Daun	Lead Reporter / HCV-HCS Integrated Team Leader / GIS Expert	Acting as a lead assessor on >20 HCV and approximately 15 HCS assessments
Kursani Sumantri*			Indonesian Freelance Consultant	Vegetation Expert	Vegetation expert for > 30 HCV assessments
Daryatun Ridwan			Indonesian Freelance Consultant	Social Expert	Social expert for > 30 HCV assessments
Ega Oktavianus Putra		√	Indonesian Freelance Consultant	Bird and Mammal Expert (HCS registered practitioner)	Mammal and bird expert. Completed 5 HCV HCS assessments

(* Forest Inventory Team)

2.2. Field team of MP staff, who assisted with the fieldwork component of the assessment

Name	Institution	Role
Herry Wilmoore	Sustainability Department	Logistics, provide data and MP / PT Hijau Daun liaison
Dita Galina	Sustainability Department	Logistics, provide data and MP / PT Hijau Daun liaison
Feri Isnu*	Sustainability Department	Logistics and guiding the field team
Dadang*	Sustainability Department	Logistics and guiding the field team
Adam Leo *	Sustainability Department	Logistics and guiding the field team
Jaka Perwira Maulana	Sustainability Department	Logistics and guiding the field team

(* Forest Inventory Team)

2.3. Stakeholder

Relevant parties (self-representative or key stakeholder of local communities, and other users that living in or using the assessment area) from villages and Kecamatan that were interviewed by the company prior to the assessment.

Village	Number	Self-Representative Institution and individual
Titi Baru	7	Subhan Jaya Atmaja (Kepala Desa Titi Baru)
		B. Sunarman (Tokoh Adat Dayak Titi Baru)
		Ishab (Majelis Adat Budaya Melayu Titi Baru)
		Busran (Tokoh Pemuda Titi Baru)
		Feni Ardiansyah (BUMDes Titi Baru)
		Novian Hadi (BPD Titi Baru)
		Juliantika (Perwakilan Tenaga Pendidikan Titi Baru)
Jelayan	5	Rudiyanto (Kepala Desa Jelayan)
		Kanisius Yanto (Tokoh Adat Dayak Jelayan)
		Ridwan (BPD Jelayan)
		A. Moliyato (LPMD Jelayan)
		Ali Martopo (Tokoh Masyarakat Jelayan)
Natai Panjang	11	Polonius Sudiyanto (Kades)
		Andreas Pawi (Tokoh Adat Dayak)
		Bernandus (Karang Taruna)
		Derasan (Tokoh Masyarakat)
		E Norpili (PKK)
		H Manton (KelTan)
		Jubin (BPD)
		M Dianti (Tokoh Agama Kristen)
		P Hembu Suherman (Tokoh Agama Katolik)
		P Layati (Tenaga Kesehatan-Posyandu)
		Yulianti (Tenaga Pendidikan-SD PL)
Suka Damai	8	Yako Antonius (Kades)
		A Wina (PKK)
		Ancis (Tokoh Masyarakat)
		Bagik (Tokoh Adat Dayak)

		Cilik (CU)
		Maria Nurmala (BPD)
		Norsiah (Tenaga Kesehatan-Posyandu)
		Odo Harianto (LPMD)
Tanjung Maloi	11	Martunis Riwan (Kepala Desa Tanjung Maloi)
		Antonius Idin (Tokoh Adat Dayak Tanjung Maloi)
		D. Usim (Tokoh Agama Katolik Tanjung Maloi)
		Dedet - Frederikus A. (Kelompok Tenaga Kesehatan Tanjung Maloi)
		Elisabet (BPD Tanjung Maloi)
		Klaudius Andi (Kelompok Karang Taruna Tanjung Maloi)
		M. Ratnawati (Kelompok PKK Tanjung Maloi)
		Markus Riwan (Tokoh Agama Kristen Protestan Tanjung Maloi)
		N. Subarman - Felix Nurdin (Tokoh Masyarakat Tanjung Maloi)
		Petrus Andi (LPMD Tanjung Maloi)
		Yohanes Amos (Kelompok Tani Tanjung Maloi)
Batu Beransah	7	Antonius Neki (Kades)
		Agata (BPD)
		Benediktus Icat (Tokoh Adat Dayak)
		Fransiskus S (Tenaga Pendidikan)
		Helina (PKK)
		Petrus Tomo (Tokoh Masyarakat)
		Suparman (KelTan)
Mahawa	6	Aldotus. B (Kades Mahawa)
		Emiliana Lusi (BPD Mahawa)
		Musa Joni (Tokoh Adat Dayak Mahawa)
		Stefanus Saman (Tokoh Masyarakat Mahawa)
		T. Ira Irvina (Posyandu Mahawa)
		Romeos Akiong (Sekretaris Desa)

Scoping study participants at village level by gender

Village	Male	Female	Grand Total
Batu Beransah	12	6	18
Jelayan	8	2	10
Mahawa	4	1	5
Natai Panjang	5	4	9
Suka Damai	7	5	12
Tanjung Maloi	10	3	13
Titi Baru	12		12
Grand Total	58	21	79

Seven villages that were interviewed as part of the full assessment

Villages	Date	Grand Total
Batu Beransah	22.7.23	42
Mahawa	22.7.23	29
Titi Baru	20.7.23	27
Jelayan	22.7.23	24
Nantai Panjang	20.7.23	24
Suka Damai	20.7.23	23
Tanjung Maloi	21.7.23	12
Grand Total		181

Numbers and dates people consulted in the final consultation

Village	Date	People Consulted
Government	10/10/2023	11
Batu Beransah	13/10/2023	29
Mahawa	12/10/2023	19
Suka Damai	13/10/2023	50
Tanjung Maloi	14/10/2023	16
Natai Panjang	11/10/2023	28
Titi Baru	11/10/2023	18
Jelayan	12/10/2023	24
Grand Total		195

3. Assessment timeline

Step	Step description	Dates undertaken/scheduled
1	Participatory Mapping	January – June 2023
2	Compilation of secondary and available primary data, including preliminary stakeholder consultation during a short, initial visit to the license areas (Scoping Study)	June 2023
3	Developing a proposal and contracting	April 2023
4	Team formation and briefing on project scope	June 2023
5	Planning for fieldwork and agreement on field methods for primary data collection	June 2023
6	Scoping - Fieldwork and primary data collection, including direct stakeholder consultation.	3 – 9 July 2023
7	Full Assessment - Fieldwork and primary data collection, including direct stakeholder consultation	10 – 25 July 2023
8	Development of an SIA (which included a Social Baseline Study and Land Tenure Study)	July – September 2023
9	Data analysis and interpretation	July – September 2023
10	Preparation of a Draft Report, including HCV-HCS area maps and management and monitoring recommendations (phase 1)	July – September 2023
11	Final consultation to report interim HCV-HCS findings and undertake RBA assessment.	9 – 13 October 2023
12	Amend the draft report based on the Final Consultation.	October – December 2023
13	Submission of the HCV-HCS Report to HCVRN	January 2024

4. Summary of Findings

4.1. HCV 1

There are several rivers and swamps within the assessment areas. The buffers to these are protected by Indonesian law. HCV 1 is mapped over these areas. There are 4 RTE tree species (VU or above, or protected by the Government of Indonesia).and 11 endemic species. The endemic species are pioneer species and quite common or planted trees. There are 7 RTE or Protected or endemic birds sighted. The forest blocks where these were sighted is mapped as HCV. There are 11 mammal species that were sighted or mentioned as being present by locals. These species were either CITES listed, RTE (VU or above) or protected by the Government of Indonesia. In the absence of aquatic survey information the

precautionary approach is applied because there “could” be temporal concentrations of aquatic species present. Therefore all the rivers and their associated buffers are HCV1. Therefore, HCV 1 was deemed present in the assessment area. This was on the river buffers and areas of LDF or better of a reasonable size or connected to the river buffers.

4.2. HCV 2

Given that this area is so disturbed and dominated by rubber, an introduced and planted species. Additionally, any large forested areas (with intact cores) are a significant distance away. There are top predators (*Prionailurus bengalensis*) confirmed present, but given the level of modification of the natural areas over many decades it was deemed that HCV 2 is Not Present.

4.3. HCV 3

Although most of the landsystems are considered endangered (“Mixed or hill dipterocarp forest on igneous (granite)” and “Mixed or hill dipterocarp forest on sedimentary rock” ecosystems), the only natural vegetation that overlaps with this land system is degraded scrub and a small area of pioneer forest. The natural forests have been comprehensively cleared and planted with rice or agricultural crops and then rubber / fruit trees in a cycle of shifting agriculture. Some areas have been burnt in large fires. The area is all on relatively infertile soil (considered to be semi-kerangas). The area is all on APL land (classified for conversion). The area is made up of original villages where all the area has been cleared at least once for agriculture and all the owners of the land have plans for agricultural uses of the area.- HCV3 is therefore deemed Not Present.

4.4. HCV 4

There are many aquatic environments in the assessment area. All these require buffers that are considered HCV 4. HCV 4 was deemed present based on slopes greater than 22 degrees. Regarding buffers on aquatic environments, all areas have HCV 4 present. It is considered that regulation of humidity, rainfall and other climatic elements or pollination services are not present. HCV4 was deemed to be present on LDF or better that are of a reasonable size and able to prevent the spread of wildfires.

4.5. HCV 5

There is still a heavy reliance on natural resources for daily needs by the community. The main resources are water, fish and firewood. Therefore HCV 5 is deemed Present.

4.6. HCV 6

There are many cultural site in the AOI as well as the assessment area. These were determined in association with the community. Therefore HCV 6 is deemed to be Present.

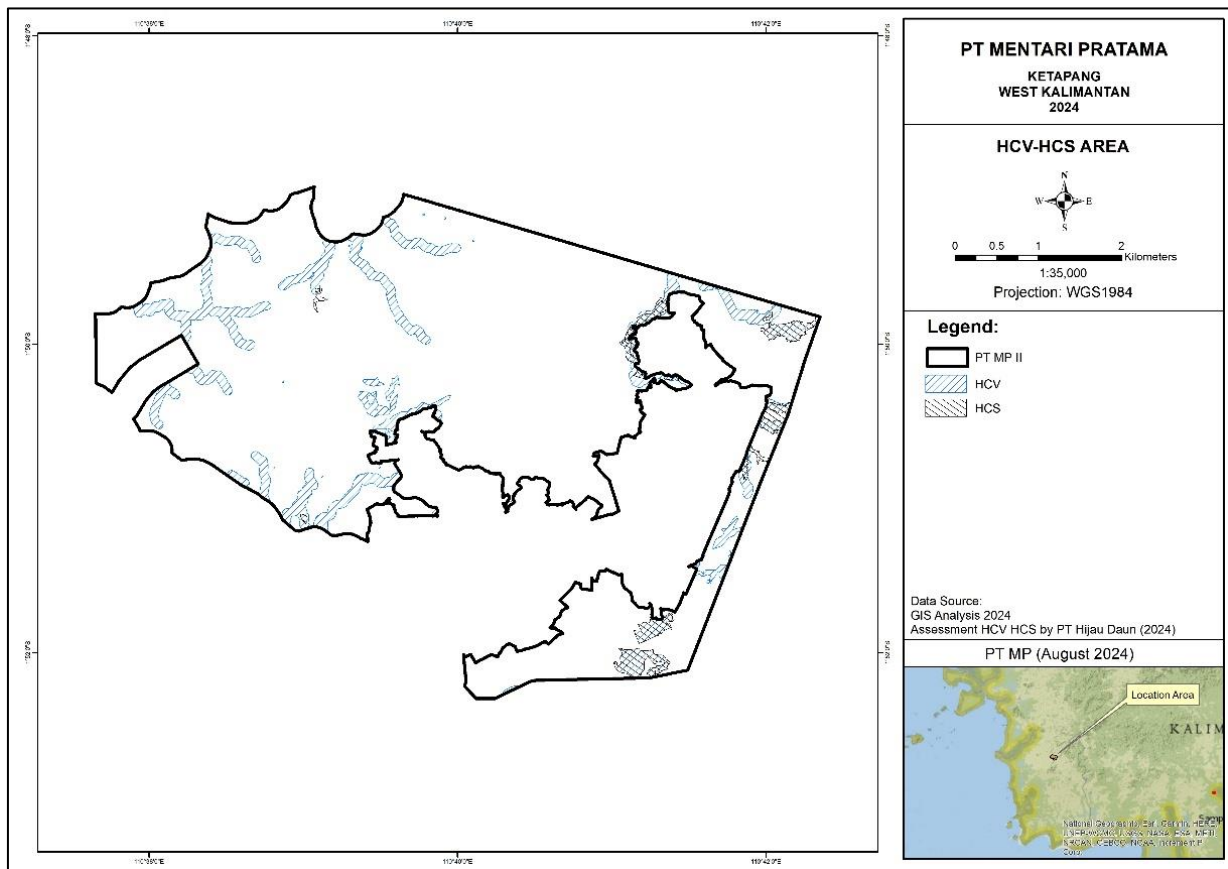
4.7. HCS

The HCS classes are YRF or better.

4.8. Summary maps

Area Statement (ha). There is no HCV 2 nor HCV 3 area. This is calculated using GIS software. Considering the accuracy of the software, the actual hectareage on the ground might differ.

Ha	
HCV1	218.66
HCV4	245.89
HCV5	183.87
HCV6	0.34
HCS	59.34
HCV Only	246.22
HCV & HCS	252.71
Total Area	2,270.07
Development Area	2,017.36



Combines all the HCV and HCS areas. This becomes the total area for conservation.

4.9. Threat assessment

Table 1. Threats to biodiversity and social values

Value identified	Threat (Current and Future)	Source of Threat	Likelihood	Impact
HCV 1	<ul style="list-style-type: none"> • Hunting • Fire • Invasive species • Logging • Agricultural clearance • Grazing of livestock in riparian areas 	<ul style="list-style-type: none"> • Hunters • Prolonged dry periods caused by El Nino (which occurs every 5 – 10 years). • <i>Imperata cylindrica</i> is an example of an invasive species. • Commercial or community logging. • Shifting cultivation. 	<ul style="list-style-type: none"> • The very low presence of birds and mammals in all the survey areas indicates that high level of hunting activities take place in the areas. Additionally, at the community interviews the community representatives stated that everyone owned a firearm and they were obsessed with hunting. • Fire occurs after a prolonged dry periods which has been attributed to the El Nino effect. The last El Nino was in 2015. Analysis of hotspots shows a spread typical of scattered shifting agriculture fires. However, in the east, there is evidence of an uncontrolled wildfire typical of what occurred elsewhere in Kalimantan that year (Error! Reference source not found.). Burning for agriculture is now highly regulated. However, burning still occurs and in dry seasons one cigarette butt thrown away could start a large fire. • There is already a vast area of <i>Imperata cylindrica</i> and reversing its spread will be a major challenge for communities. • If these areas are set aside as HCV then they will not be logged nor cleared for shifting cultivation. But will likely 	<ul style="list-style-type: none"> • An efficient hunter can greatly reduce the number of species in the landscape. • There were no areas in the study area that have been ravaged by fires. However, if land clearing continues, the likelihood of catastrophic fires also increases. • <i>Imperata cylindrica</i> has the effect of helping fire spread as well as having an impact on food security as the roots also produce an exudate that inhibits the growth of other grass crops such as rice and maize (Donner 1987). • All the forests in this area have been logged by the community in the past. There is no evidence that the pressure on the environment will be reduced . With increasing population the level of exploitation is likely to get worse. This means more degraded areas dominated by scrub, bamboo and <i>Imperata</i> grass.

			transfer the pressure to areas outside the concession.	
HCV 2	• Not present			
HCV 3	• Not present			
HCV 4	<ul style="list-style-type: none"> • Government requirement to buffer any rivers by 50 m. This leads to smaller rivers not being considered rivers and therefore having no buffer. • Burning to assist agricultural development within the riparian buffer strip. • Excessive fluctuations in the river levels (and lower base flow). • Lack of awareness by company employees and contractors about HCV 4, particularly small river riparian buffers and mismanagement of high risk activities within buffer areas (e.g building roads through riparian areas, developing steep slopes). • People constructing huts and living (permanently or temporarily) and making 	<ul style="list-style-type: none"> • Lack of definition about what is considered to be a river. • Increased population with people looking at empty land as a place to garden and live in. They will use fire to clear buffer strips / steep areas. • Land clearing and building roads which means that rains runs off quickly and enters the rivers immediately. • Lack of training and awareness of SOPs. 	<ul style="list-style-type: none"> • Only the larger rivers are to be mapped. • If development goes ahead, increased fluctuations will go ahead. • Training and awareness of SOPs is quite thorough at PT MP so clearing of buffers and steep areas is unlikely. However, community clearing will likely continue. 	<ul style="list-style-type: none"> • All mapped rivers will receive a 50 m buffer. • Increased fluctuations in river levels (more severe floods and droughts). • Any clearing will destroy the buffer and these areas will have to be re-established. • Clearing of buffers and steep areas will result in erosion and stream pollution.

	gardens in riparian areas. • Fire – this will stop tree lined riparian strips being established.			
HCV 5	<ul style="list-style-type: none"> • Agricultural chemicals and siltation in the rivers. • Deforestation in the catchment causing siltation of the rivers. Also change in the flow characteristics of the river (i.e. larger floods and lower baseflow). Change in water temperatures due to loss of the shade effect of riverside trees. • Inadequate land area set aside for agriculture, leading to loss of food security. • Claims and disputes on land. • Continued agricultural expansion putting increased pressure on natural areas. Most likely this will be caused by oil palm companies that are not RSPO members nor have a “no 	<ul style="list-style-type: none"> • Applying too many (or inappropriate use of) agricultural chemicals. • Mining (Gold and Coal). • Deforestation (agricultural land clearing, forestry) • Community making spurious or double claims of land ownership. This can lead to loss of land from the rightful owners and as such is a threat to food security. • Shifting cultivation expanding beyond its current extent. • Fires from burning associated with agricultural expansion • Community for housing 	<ul style="list-style-type: none"> • Unlikely because PT MP has SOPs and training that ensure only the minimum required amount of chemicals are applied and that these chemicals are not applied near water bodies. • Gold and coal mining are already polluting the river water. Also there is a large increase in sediment in the river water. • Forestry and community land clearing are taking place • Medium, because the much of the land that PT MP is paying ganti rugi for does not have any clear ownership. Yet people are claiming land as theirs in order to onsell it. • Agricultural expansion is already taking place. • There is a high likelihood of fire. PT MP and the community have to be prepared to extinguish fires before they get out of control. • High – the community have a culture of harvesting trees for housing 	<ul style="list-style-type: none"> • Minimal provided these impacts are managed. • Reduction in the quantity of fish in the river has already taken place. • Reduction in the potability of water. • Continually update the land acquisition policy and procedure to ensure that the adequate checks and balances are in place to prevent land disputes. • River cannot be relied upon during droughts. • Increased deforestation as a result of agricultural expansion. • Fire has the potential to completely destroy the area’s forests and threaten the livelihood of communities. It has done this in other areas of Kalimantan. • High – basically most of the high value species have been harvested already.

	deforestation commitment” <ul style="list-style-type: none"> • Fires in el nino years. • Community harvesting of timber in HCV Areas 			
HCV 6	<ul style="list-style-type: none"> • Inadvertent clearing of the area around the cultural sites. 	<ul style="list-style-type: none"> • Oil Palm development 	<ul style="list-style-type: none"> • Low, Provided SOPs are followed 	<ul style="list-style-type: none"> • The current nature of the sacred sites will be lost.
Peat	<ul style="list-style-type: none"> • Not present in the assessment area. 			
HCS Forest	<ul style="list-style-type: none"> • These follow HCV 1 and are not repeated here 			

Section 5: FPIC

Participatory Mapping Undertaken by the Company

The purpose of the PM was to understand the location of the affected communities. In this instance this was assumed to be the villages that overlapped with the potential development area. Within this area the object was to:

- Map the boundaries of the villages.
- Map the land use.
- Map land tenure

This started with initial meetings. The purpose of these initial meetings was to explain the aims and objectives regarding PT MP's PKKPR permit area. Particularly this was to explain to the community the following steps and the purpose of each:

- The development plan,
- The HCV-HCS study.
- The Social Impact Assessment (SIA)
- The FPIC process

Another purpose of these meetings identify key stakeholders in the area. Each village had to select self-representatives from the village community. Potential representatives that were identified were the Village Head, Village Apparatus, Badan Permusyawaratan Desa (BPD), Traditional Leaders, Community Leaders, Religious Leaders, Karang Taruna, Farmer Groups, Village Community Empowerment Institutions (LPMD), Education Personnel, Health Staff, Family Welfare Empowerment Group (PKK) etc. Each village selected its own representatives from such groups.

Chronology of the participatory mapping undertaken by PT MP

Village	Initial FPIC Meeting		Preparation for the study and gathering / studying secondary data (DESK-TOP STUDY), Preparation of maps, tools and material.		FGD Gathering of Primary Data		Inspection and meetings in the field		FGD Verification and Validation of the maps	
	Dates	Number of participants	Dates	Number of participants	Dates	Number of participants	Dates	Number of participants	Dates	Number of participants
Titi Baru	27 Feb 2023	26	1 - 6 May 2023	8	09 May 2023	18	10 May 2023	5	17 May 2023	3
Jelayan	1 Apr 2023	28	1 - 6 May 2023	8	12 May 2023	28	13 May 2023	8	20 May 2023	4
Tanjung Maloi	4 May 2023	53	1 - 6 May 2023	8	15 May 2023	20	16 May 2023	7	20 May 2023	5
Natai Panjang	3 May 2023	36	1 - 6 May 2023	8	17 May 2023	16	19 May 2023	7	25 May 2023	4
Mahawa	6 Mar 2023	29	1 - 6 May 2023	8	23 May 2023	19	23 May 2023	5	24 May 2023	4
Suka Damai	7 Mar 2023	26	1 - 6 May 2023	8	24 May 2023	11	24 May 2023	4	25 May 2023	4
Batu Beransah	28 Feb 2023	85	1 - 6 May 2023	8	25 May 2023	24	25 May 2023	5	26 May 2023	3



FGD with the community of villages

The purpose of the FGD was to not only map land use but to open up to a wider discussion about the:

- Patterns of land use (both current and in a historical context)
- Land ownership (both current and in a historical context)
- Disputes relating to land and how these disputes are resolved at village level or based on customary law.

This activity was done at village level with the assistance of people that had been selected by the village to represent the village in discussions with the company. In this activity the company staff took these stakeholders through a number of steps as described below. This was not done in a linear way, rather information was added to the maps and then a discussion and subsequently looping back and adding more details to the map.

1. Look at the base map and satellite imagery map. With a company representative pointing out the key features so that people could orientate the base maps to their own understanding of local geography.
2. As a means of an introduction, explain exactly what information the company wanted to obtain and add to the base map.
3. Add attribute information to the basemap in a participatory way.
4. In some cases training to the key stakeholders had to be provided in order they were familiar with the maps.
5. Question and answer discussions, consultations and interviews with key stakeholders, including identifying the existence of customary and ulayat areas.
6. Refinement of map information with the stakeholders.
7. Compilation of a draft copy of the base map before taking it for inspection to the field.
8. Formation of a village participatory mapping team to carry out mapping in the field and verify the validation of maps resulting from the mapping. The formation of this team is based on proposals from key stakeholders within the village.

With the assistance of the satellite images and other navigational points the villagers were asked to map the land use and describe the land use. Some photos of the activities are presented.



Participatory mapping done with the villages and facilitated by operatives within PT MP

Following the mark up of the map the PM team (both village and PT MP staff) made field visits to confirm the accuracy of the map. Particular areas they visited and issues discussed were :

- Boundaries between villages.
- Confirming particular land covers – e.g. going to areas of scrub / forest / mixed gardens and ensuring everyone had the same concept of the land cover categories that were marked on the map. Particularly there is a continuum between a mixed garden and mixed rubber. Similarly between forest and mixed rubber – even within forest areas occasionally one sees planted fruit trees or rubber trees. It is important that everyone agrees at what point people consider a landcover to be forest and when it is mixed rubber.
- Discussing other definitions – for example the HCS toolkit states when defining YRF “Note: abandoned plantations with less than 50% of basal area consisting of planted trees could fall in this category or above. Concentrations >50% of basal area would not be considered HCS forest but rather plantations and should be classified separately.” It was noted that many of the rubber areas had < 50% of the basal area as rubber. The key question is whether they would be considered “abandoned.”
- While there are roads constructed by government, the quality of these roads is still poor as most of the main road all the roads are dirt roads. Extracting heavy crops like FFB and others commodities are very difficult and expensive. This has limited development in these areas. Additionally, the bridges over S Pesaguan are only foot / motorbike bridges. In general, how areas are accessed. However, these roads and existing bridges has surely enhance accessibility of isolated villages and villages around assessment area to city, nearby market or trading market (Pusat Pasar).

The results of this process will be corrections/improvements to the map draft prepared previously.



Photos of field inspections taking place with the village team and PT MP team

As a result of refinements from inspections and field visits The village participatory mapping team and village government undertook a final verification of the final map draft. Consultations are carried out to ensure that all parties are satisfied and there are no other additions to the map or corrections to what has been drawn previously, so that the map can be validated together. The output from this stage is a map drawn and written using a marker, complete with information about the name of the place and date of map validation, the name of the creator/compiler of the map information, the name of the map preparation facilitator, the name of the map approver/informant, the name of the village and the name of the activity. The legend is also included in the map, along with all the colour/shape codes used during the mapping. The verified and validated map was then photographed as documentation of the results (output) of a series of participatory mapping activities and land tenure studies.

The participatory mapping focussed on:

- Mapping the boundaries of the villages
- Mapping the land use
- Mapping land tenure

The boundaries of the villages that were initially used were the boundaries issued by the BPS in 2022. However, it soon became clear that there were significant differences between the boundaries from BPS and boundaries that were recognised by the villages. Fortunately, each of the villages had boundary maps complete with the coordinates of the intersections.

Regarding the mapping of land use. The villages were asked to map land use. A satellite image was used to assist with the mapping. The people assisted by pointing out the land use associated with each of the generic land covers within the village. The land use that were identified were:

Land cover categories used in the participatory mapping exercise for the land use map.

Land cover categories	Description
Forest (hutan)	Natural forest which has been selectively logged by the local community
Production Forest (Hutan Tanaman Industri)	Acacia or Eucalyptus plantations
Road (Jalan)	Asphalt road

Mixed Plantation (Kebun Campuran)	Predominantly a rubber plantation with natural forest trees and fruit trees (e.g. durian, jengkol, rambutan, mango)
Oil Palm (Kelapa Sawit)	Oil Palm
Open Land (Lahan Terbuka)	Recently cleared land – usually using fire.
Graveyard (Makam)	Graveyard
Settlement (Permukiman)	Built up village area
Field (Perladangan)	Fields used for grazing cattle or planting agricultural crops (e.g. rice, cassava)
Scrub (Semak)	Usually fields that have been recently abandoned in the cycle of shifting agriculture.

Land tenure mapping was focussed on understanding exactly who owned each area. At this stage this was done since there is existence of PTSL by government which contained data of occupied land and its owner.

There are many sacred sites in this area. Although the communities are nominally Christian and Muslim, clearly there is strong mixture of animism which can be seen through the designs that one sees everywhere around the communities.

Participatory Mapping Undertaken by the Consultant

The information for this Land Tenure and Use Study was obtained through direct interviews and Participatory Mapping. The interviews took place in three phases:

- Scoping (3/7/23 – 6/7/23)
- Full Assessment (20/7/23 – 22/7/23)
- Final Consultation (9/10/23 – 13/10/23)

The participatory mapping focussed on marking the main geographic features such as hills and rivers. The communities during later consultations preferred to mark up the features on brown paper. The features of these maps were later transferred into digital format.



Jelayan - marking up features of the village on brown paper

PT Hijau Daun spent 13 days in the field (3 – 15 July) travelling around with the PT MP survey team and members of the local community. There were discussions about land tenure and land use issues while travelling around.



Walking to various locations within the site to make field observations

Summary of findings

Land Tenure within the Area of Interest is all land owned by the community or state. The community lands are all privately owned, there is no “communal land” and “customary land” or “tanah ulayat/adat”. Land Tenure, for state land is shown on the spatial plan, all state land is gazetted as “forest area”. For community land there are several systems for showing land ownership. There is:

1. PTSL – which surveys the boundaries of land and provides a land certificate to the owner. This is registered in a central government database.
2. SKT – this is a land title certificate provided by the village office.
3. Traditionally recognised boundaries – based on local knowledge and understanding of boundaries between neighbours and within the village.

Land Use in the area is based on shifting agriculture – dry rice is the major agricultural crop. Land is cleared, agricultural crops are grown and when the land is no longer sufficiently fertile, farmers plant a mix of rubber and fruit trees on the area before moving to another location. Therefore, food security is more than sufficient as there are adequate availability of lands or areas to support communities’ agricultural (shifting) practice. Moreover, due to modernization endorsed by government through infrastructure improvement and road development, communities could easily manage its food and consumption needs through highly accessible nearby market or trading centre (pusat pasar). These aspects will improve over the years ahead in better maintaining and supporting stable communities’ food security.

As such, land use is a means for defining land tenure. Once land has been used by an individual or family, it is considered owned by that person or family. In this context when working with local communities it is very important to understand local peoples’ attitudes towards land and understand how it is owned. Especially with the process of land compensation, a deep understanding of land tenure and land use is necessary to avoid land conflict both between the community and the company and fuelling potential disputes within the communities.

Recommendations

1. PT MP, through the Public Relations Department, appears to have communicated well with the local community. All the community acknowledged that the company had been very open about their plans. Continue to apply the FPIC principles at every stage of the company’s activities. If there are any complaints, these should be addressed quickly.

2. MP has applied FPIC Principles through its land transfer system in the existing plantation. This system appears to be quite detailed, complete and thorough. Furthermore, the communities in the area appeared to have no major issues with this process (which is a good achievement).
3. The land transfer SOP has to be explained very clearly, this is always an emotional issue.
4. If the principles of FPIC engagement have not been explained to the community. This must be socialised.
5. Although none of the communities reported any form of intimidation it would be worthwhile having staff, particularly staff that are involved in the land transfer process, sign a code of conduct. This should state that coercion, intimidation, duress and manipulation must not be used in dealing with or influencing the community. Similarly, company representatives must not propose (or offer) employment to individuals in anticipation of proposed agreements, before there is community consent and a legally binding land use agreement in place.
6. MP had done a good job in socialising their plans to the community.
7. Regarding the KKPA a proposed budget should be provided so that the community realises the financial benefits that they are likely to obtain from the KKPA. The impacts of various factors (e.g. exchange rates, price of CPO) that fluctuate should be clearly explained. Similarly, any taxes or levies should be pointed out. Other problems that have arisen elsewhere are :
 - a. Issues with land certificates within the KKPA : It has to be made clear exactly who will hold the land certificates and what can be done with them. For example, whether they can be used as loan security.
 - b. Dana talangan: how much this should be and how it will impact on future returns.
 - c. The fee that will be charged for plantation management.
 - d. The mechanism that the cost of getting the crop to maturity will be deducted off future payments.
 - e. The mechanism that the cost of replanting will be deducted off future payments.
8. Plasma development can be a positive thing for the community, but it can also be a source of prolonged conflict, therefore it is necessary to ensure that:
 - The most appropriate implementation must be selected to ensure the results are the best choice analysis for all parties.
 - The integrated HCV and HCS approach requires the community having legal representation. It is advised to get the Bidang Koperasi, involved in order to review MOUs and other documents.
 - Conduct very clear explanations to the community about the chosen scheme, including its future impacts. The community are unlikely to understand the consequences of running a business professionally, where taxes, administrative costs, and labour costs, can significantly reduce business profits. This explanation must include a "Business Projection" – an estimate of community income per hectare after deducting costs and debt. This would so that the community understands and can decide logically to accept or not accept the scheme offered.
 - Government regulations requiring at least 20% of the core land area are allocated as plasma.
 - Develop a financial reporting system that is transparent and easy to understand by cooperative members.
 - Ensuring regular meetings of the cooperative committee and at least an annual meeting of all members.
 - Cooperate and communicate with related agencies, namely the Cooperative Office, plantation offices and sub-district government offices.
9. All Government Departments stated that PT MP followed the local regulations very closely. All obligations relating to regulations and legislation must be followed in the plantation expansion project.

10. Prioritize the employment of people from local communities as workers at various levels in the company. Part of this should be educating the workers how to manage oil palm, hopefully they will take this knowledge and use it for their own personal plantations.
11. Regarding the HCV and HCS areas, it must be explained to the community to maintain the HCV HCS values in their area and collaborate with the company to carry out the management and monitoring program that has been determined.
12. Ensure all HCV and HCS areas are maintained, especially the buffers along rivers. The most important part of this is making sure that people do not encroach upon these areas and cut trees, open gardens or graze cattle.
 Another important issue is the locals' obsession with hunting. As a result, there are barely any birds or animals left in the area. The company should collaborate with Government Agencies (e.g. BKSDA) and the local community to get people to stop hunting. Many of these species are nationally protected, so killing them is against the law. Currently there is no enforcement of this.
 Another issue is that of river buffers – the company should point out that the community blames them for polluting the rivers. Even though the company has 50 m (or more) river buffers. Joint river management is necessary, so that where rivers flow through company and community owned land, both areas have adequate buffers.
13. CSR : currently the communities have high expectations about CSR. Clearly the company will have a limited budget for this programme. For this reason, projects should be prioritised that benefit the whole community, not just a small group.
14. The initial FPIC process has required setting up village representatives. These networks should be maintained in order to keep good connections and open communication with the villages. In other areas communities have complained that contact people at companies resign and after that the link between the company and the community is lost. Community representatives say that they don't know who to talk to when issues arise. With staff turnover it is important that these networks are maintained.
15. Fire: the east of this project area is very fire prone. It is important that there is good collaboration among the community / Government agencies / company to ensure fire prevention and fire fighting is adequate.
16. Depending on Company's capacity, resources, readiness and necessity, Undertake a Welfare Impact Assessment.

Section 6: Soil and topography

Land Suitability Assessment Report for Additional Permit of PT Mentari Pratama

Date of Assessment: 20 July – 02 August 2023

Name of Assessor: Surya Karto L G and M. Riza Hapiza

Assessor Designation and Company: Soil Survey Staff and Soil Survey Act. Head of Assistant / PT Mentari Pratama.

Soil samples were observed from 377 points using grid method (200m × 300m) or approximately 1 sampling point per 6 ha of land. Observations were carried out with soil boring method. Soil sampling points are depicted in the map below:

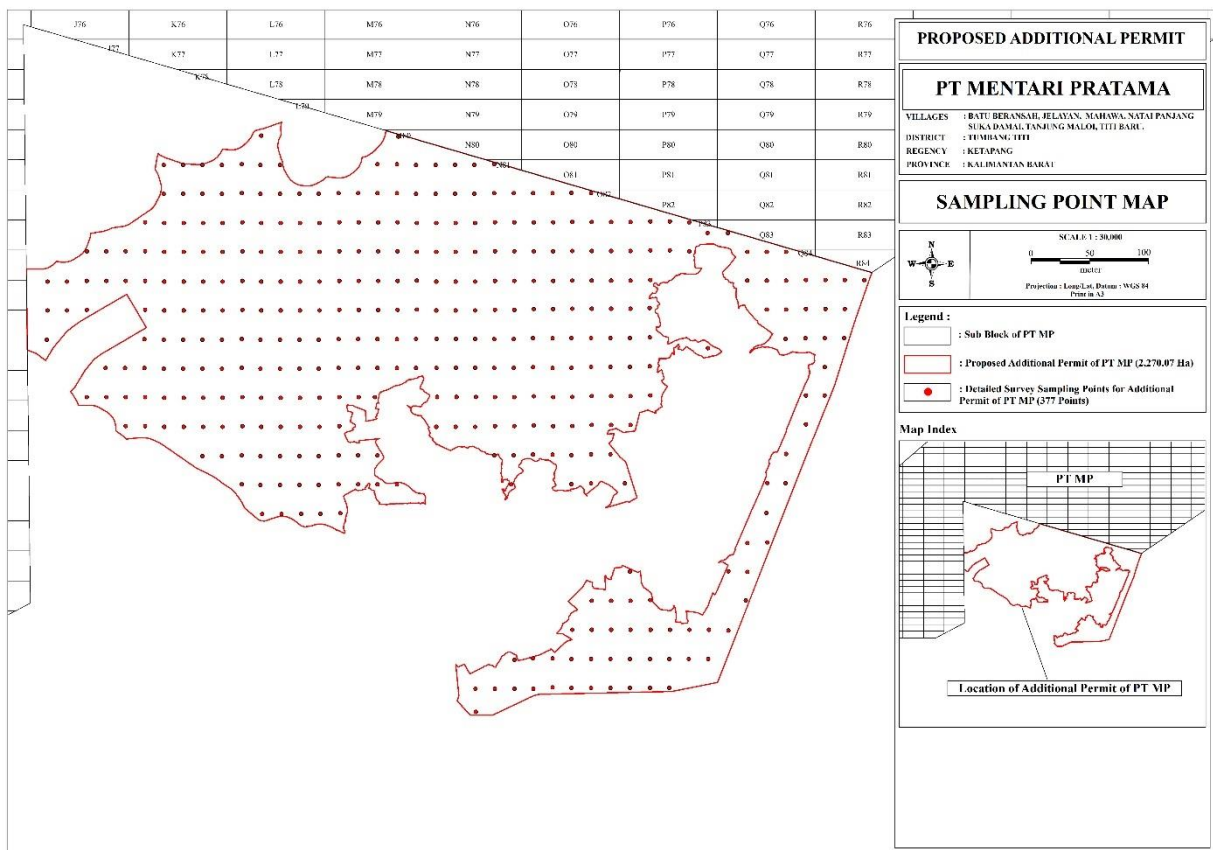


Figure 1. Sampling Point Map of the additional permit of PT Mentari Pratama

The type of soil identified in the area is solely mineral soil with 5 different soil series, namely Tumbang Titi, Sekoban, Rengat, Natai, and Patai Series. Soil texture in the area ranges from clay to silty clay loam. No fragile soils were found in the area.

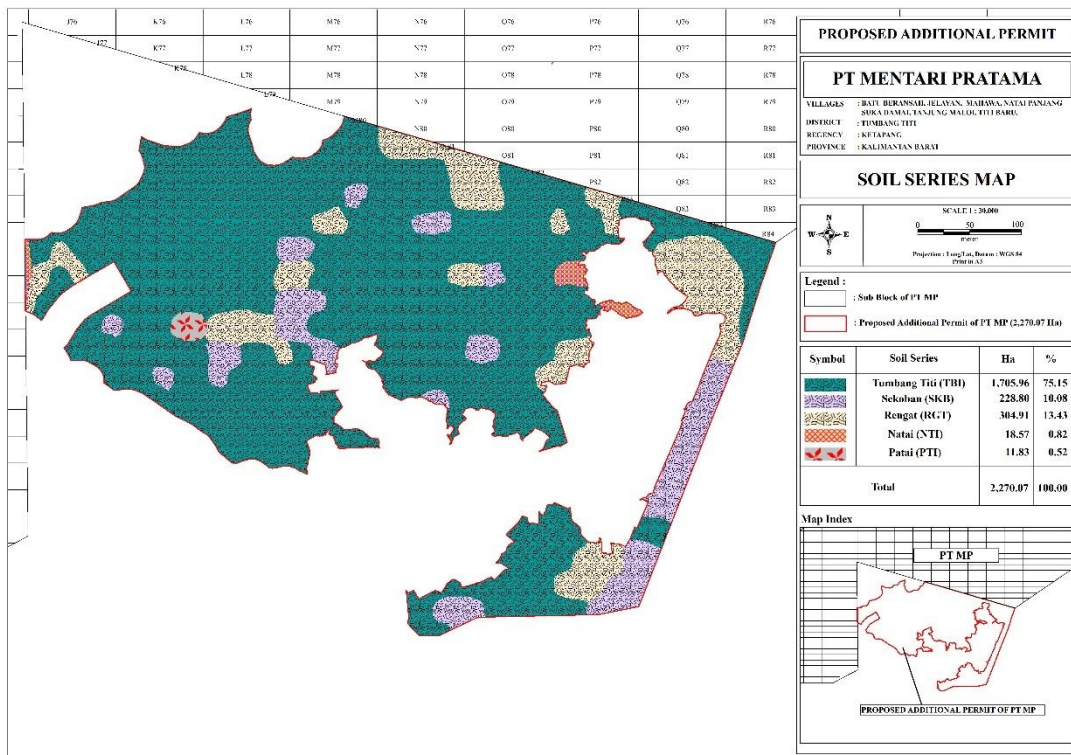


Figure 2. Mineral soil with 5 different soil series of the additional permit of PT Mentari Pratama

The topography of the additional permit area of PT MP is generally flat(0-2°) to steep (20-21,8°). The topographical distribution can be seen in the following map:

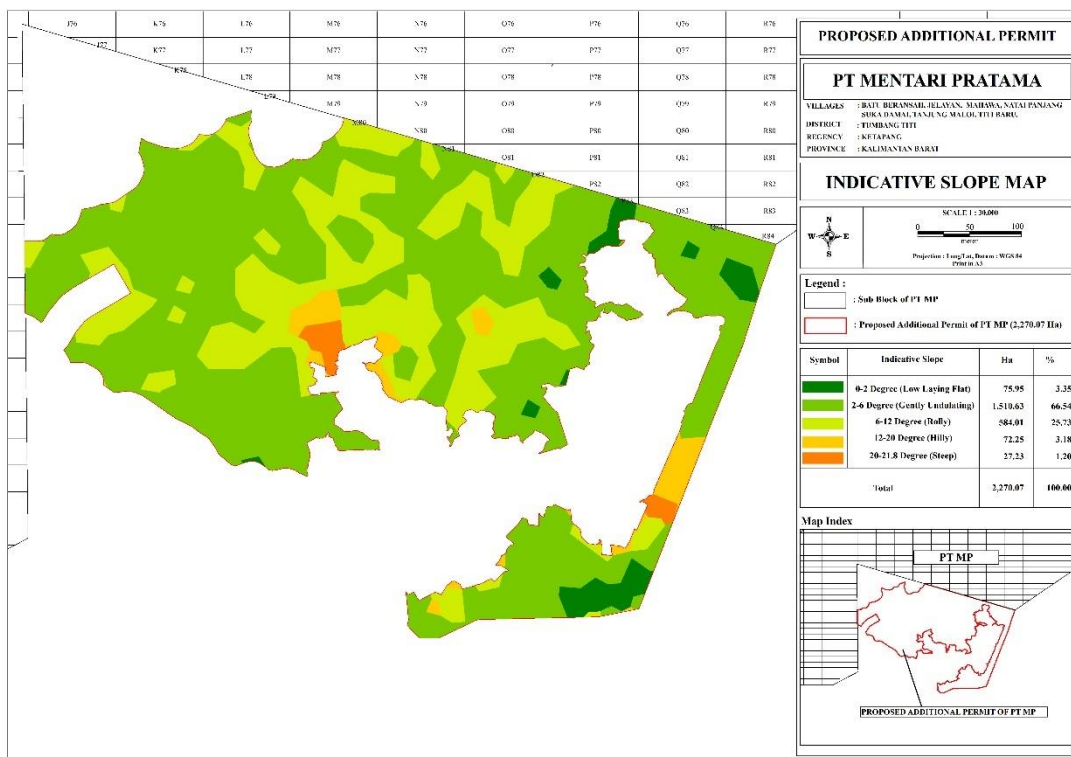


Figure 3. Indicative slope map of the additional permit of PT Mentari Pratama

Gently undulating areas (2-6°) takes up the majority area in the additional permit of PT Mentari Pratama, covering 1,510.63 ha or equivalent to 66.54% of the area. This is followed by rolling, low laying flat, hilly, and steep area covering 584.01 ha, 75.95 ha, 72.25 ha, and 27.23 ha respectively. The details can be seen in the following table:

Table 1. Details on indicative slope in the additional permit of PT Mentari Pratama

Indicative slope	Hectarage	Percentage
0-2° (Low Laying Flat)	75.95	3.35
2-6° (Gently Undulating)	1,510.63	66.54
6-12° (Rolling)	584.01	25.73
12-20° (Hilly)	72.25	3.18
20-21.8° (Steep)	27.23	1.20

Regarding suitability for oil palm cultivation, land suitability evaluation in the area shows that there are 2 suitability classes, S2 (moderately suitable) and S3 (marginally suitable). The following table summarizes the hectarage for each suitability class along with the limiting factors:

No	Land Suitability Class	Limiting Factor	Hectarage	Percentage
1	S2	Natural fertility	2,010.87	88.58
2	S3	Natural fertility, effective depth, drainage	259.20	11.42

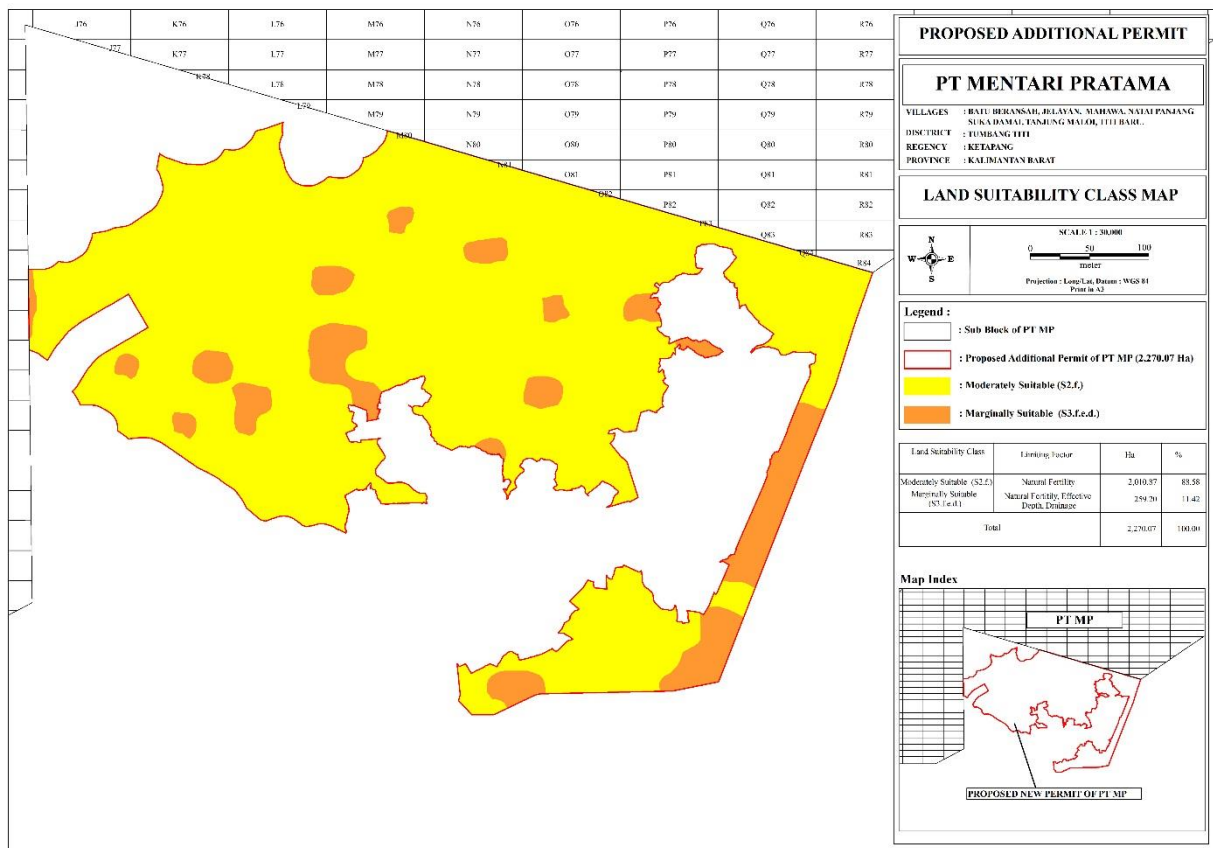


Figure 4. Land suitability class map of the additional permit of PT Mentari Pratama

Section 7: Greenhouse Gas (GHG)

GHG Assessment for New Development in On-Going Oil Palm Expansion PT. Mentari Pratama, Ketapang Regency, West Kalimantan, Indonesia.

Date of Assessment: 19th August 2024

Name of Assessor: Hadi Susanto, Hasan Muhtadin, and Derrick Jovannus.

Assessor Designation and Company: Team Leader, LUC & GIS, and Carbon Emission Accounting / PT. Mentari Pratama

The information required (initial and final land cover stratification, area of final land cover classes for PT MP II in hectare, conservation areas in hectare, and analysis of carbon stocks per vegetation class) for the GHG assessment is extracted from PT MP and Associated Potential Smallholders Integrated HCV-HCSA Assessment Report which covers PT. MP II area (2,270.07 Ha). Data analysis and preparation of development scenarios are carried out in accordance with the guidelines in RSPO GHG Assessment Procedure for New Development v4, July 2021. The New development GHG Calculator (version 3, September 2021) is used to estimate emissions from the production of oil palm, and from the change of land use. The net GHG emissions are over the full crop cycle (the default value is 25 years). Projected fertilizer use and fuel use are added in to simulate future operational emission shown in the table below.

Table 1. Projected Fertilizer and Fuel Use for Estate and Mill

General info		
FFB Yield	25	tFFB/ha.yr
OER	27	%
KER	5.75	%
Estate fuel		
Diesel consumption	1	l/ha
Biodiesel (B30) consumption	65	l/ha
Gasoline consumption	8	l/ha
Estate fertilizer		
Urea consumption	400	kg/ha
MOP consumption	600	kg/ha
RP consumption	250	kg/ha
Kieserite consumption	160	kg/ha
Dolomite consumption	450	kg/ha
Mill fuel		
Biodiesel consumption	0.20	l/tFFB processed

In order to comply with Criterion 7.10.2 of 2018 P&C, information on the carbon stock is required in order to forecast the balance of emissions and sequestration associated with a proposed development. Above ground biomass (AGB) carbon stock values were taken from PT MP and Associated Potential Smallholders Integrated HCV-HCSA Assessment Report. Below ground biomass (BGB) carbon stock values were calculated using BGB:AGB ratio of 0.18 following the recommendation from RSPO for Southeast Asian tropical rainforests (RSPO, 2021). To determine the carbon stock of each strata, actual field measurement was conducted with statistically separate mean values to a 90% confidence level, aligned with requirement of HCSA. The areas are grouped into three strata, namely LDF+ (Low Density Forest and Medium Density Forest), YRF (Young Regenerating Forest), and SCR (Scrub). The carbon stock measurement results are shown in table below.

Vegetation strata	Number of plot	Mean above ground biomass (AGB) carbon stock (tC/ha)	Carbon stock standard error (tC/ha)	Confidence level 90%	
				Lower	Upper
LDF+ (Low Density Forest & Medium Density Forest)	33	109.71	9.04	94.89	124.54
YRF (Young Regenerating Forest)	7	44.78	4.88	36.78	52.78
SCR (Scrub)	6	14.98	1.22	12.98	16.97

Each of the AGB & BGB values and final carbon stock values used in this report was tabulated in table below. Since the PT MP and Associated Potential Smallholders Integrated HCV-HCSA Assessment Report did not feature the measurement of carbon stock of tree crops, oil palm, open land and grassland strata, default value from RSPO New Development GHG Calculator version 3.0 was used.

Vegetation strata	Above ground biomass (AGB) carbon stock (tC/ha)	BGB:AGB ratio	Below ground biomass (BGB) carbon stock (tC/ha)	Final Carbon Stock Value (tC/ha)
LDF+ (Low Density Forest & Medium Density Forest)	109.71	0.18	19.75	129.46
YRF (Young Regenerating Forest)	44.78		8.06	52.84
Scrub	14.98		2.70	17.68
Tree Crops*	Default value from RSPO New Development GHG Calculator version 3.0 (Sept, 2021)			75.00
Oil Palm				63.83
Open Land**				0.00
Grassland				5.00

* Tree crops areas include mixed agriculture and mixed rubber area.

** Open land areas include open area, road/infrastructure, settlement and water body area.

The various land categories will emit or sequester different amount of carbon dioxide after conversion to oil palm. The emission or sequestration is then amortized over 25 years to give an annual GHG emission or sequestration. Carbon stock of tree crops, oil palm, open land and grassland area are taken from the default value in “RSPO GHG Assessment Procedure for New plantings, September 2021.”

There are 252.71 ha conservation area, which comprised of HCS area with the total of 59.34 ha and HCV area with the total of 246.22 ha (52.85 ha overlapped between HCV and HCS area). All of them will be set aside and no planting will be done on them. Following the RSPO New Development GHG calculator, emission credit from forested conservation areas (HCS area) will be considered in this report.

Musim Mas Group has committed to equip all of its mills with methane capture so in all of the scenarios, POME will be treated in a methane capture mill. The potential GHG emissions or sequestrations from the scenarios are calculated using the New Development GHG Calculator simplified PalmGHG excel spreadsheet (September 2021).

There are two development scenarios (permutations) to be considered:

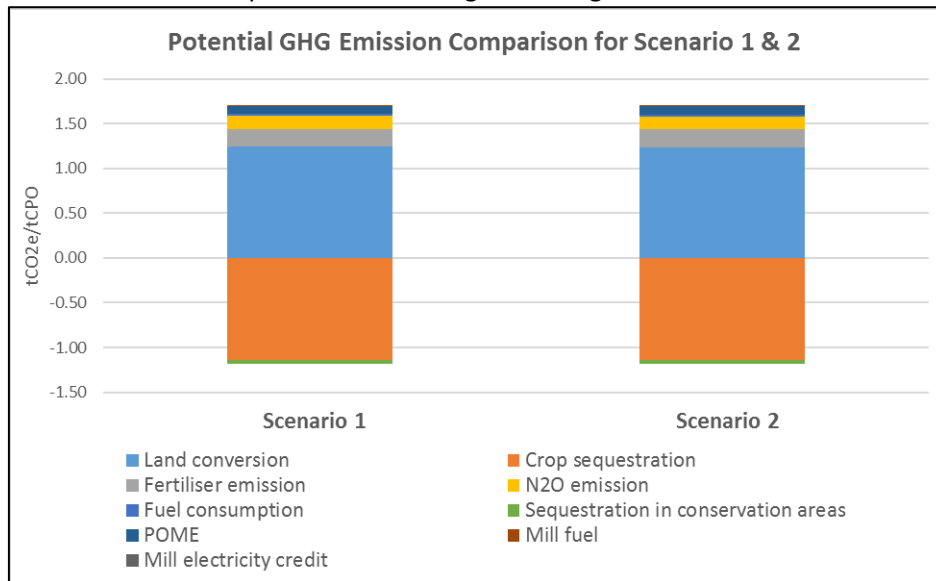
Scenario 1: Conversion of all area outside of the conservation areas (HCV and HCS Areas)

Scenario 2: Conversion of area outside of conservation areas (HCV and HCS Areas) and non-HCS forested areas

Potential GHG emission calculation of the two scenarios is conducted using the New Development GHG Calculator simplified PalmGHG excel spreadsheet (September 2021) and operational assumptions from **Table 1** above. The results are summarized in the table below.

Emission Category	Scenario 1		Scenario 2	
	Emission (tCO ₂ e)	Emission Intensity (tCO ₂ e/tCPO)	Emission (tCO ₂ e)	Emission Intensity (tCO ₂ e/tCPO)
Land conversion	19,407.78	1.24	19,122.28	1.23
Crop sequestration	-17,901.41	-1.14	-17,727.21	-1.14
Fertiliser emission	3,194.46	0.20	3,163.37	0.20
N ₂ O emission	2,277.58	0.15	2,255.41	0.15
Fuel consumption	319.49	0.02	316.38	0.02
Sequestration in conservation areas	-543.95	-0.03	-543.95	-0.04
POME	1,406.95	0.09	1,393.26	0.09
Mill fuel	20.88	0.00	20.68	0.00
Mill electricity credit	0.00	0.00	0.00	0.00
Total	8,181.77	0.52	8,000.22	0.52

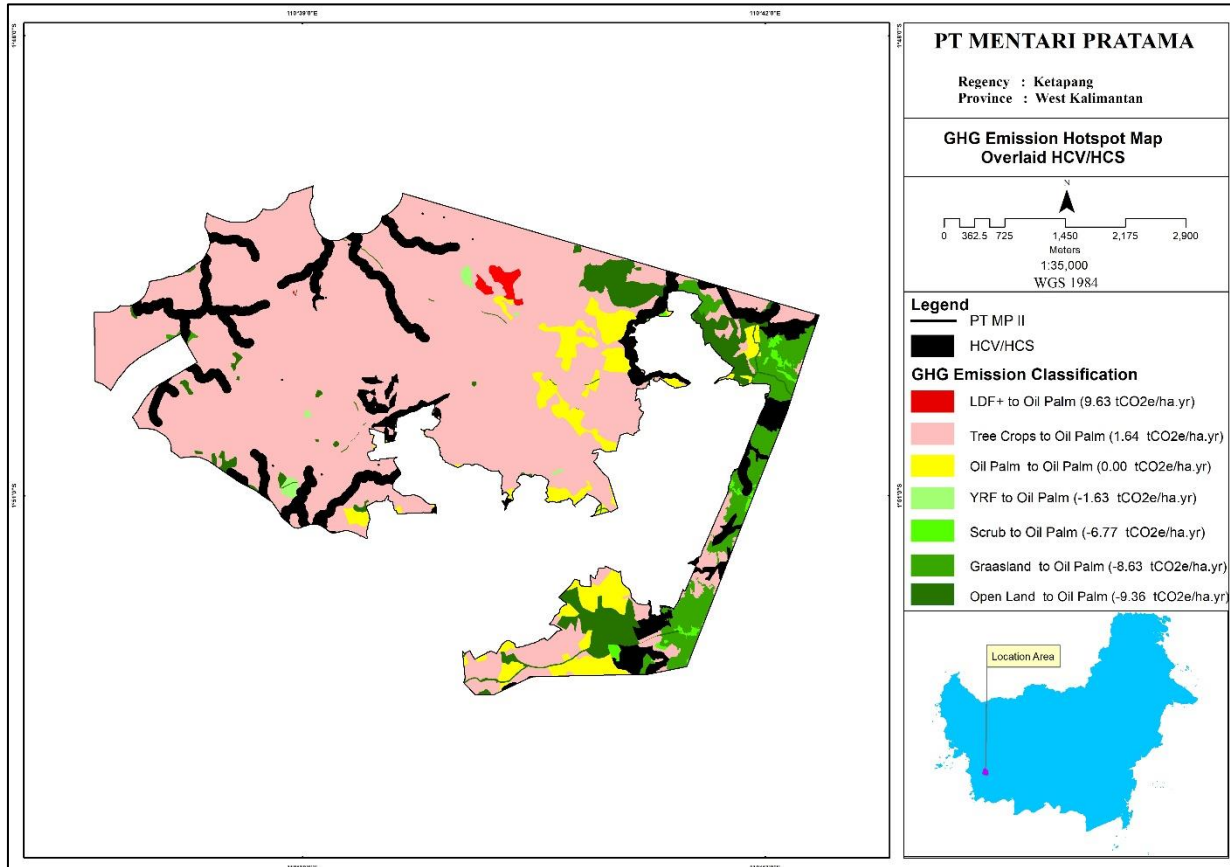
The potential GHG emissions are presented in histograms in figure below.



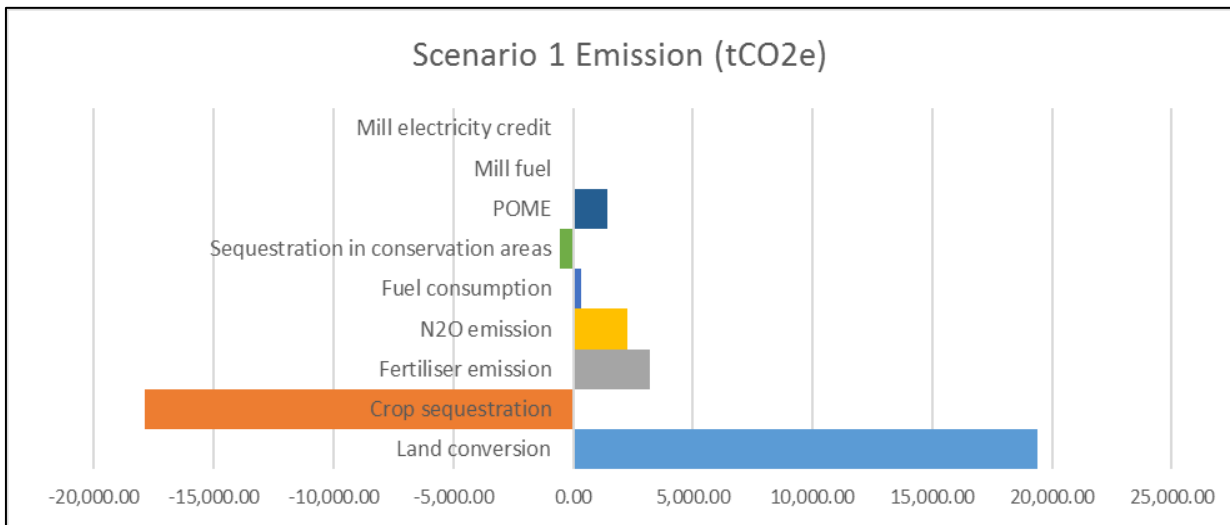
Breakdown of Emission from Scenario 1 & 2

Potential GHG emissions from the two scenarios are net positive due to the higher carbon stock value for tree crops (agriculture) land with the value of 75 tC/ha as compared to that of oil palm with the value of 63.83 tC/ha as provided in the RSPO PalmGHG. The two scenarios have comparatively similar potential GHG emissions since the total area of non-HCS forested land cover is relatively low compared to other land covers, thus the impact of non-HCS forested area conversion to oil palm on overall GHG emission is negligible.

The scenario chosen for the development plan is scenario 1. Scenario 1 is selected because it provides the best balance between conservation and development, compared to Scenario 2. The conversion of these patches provide tangible economic benefit to the company and local people with minimum environmental impact. Please note that there is no conversion of HCV and HCS areas in this proposed development.



The Potential Oil Palm Expansion Area within The Assessment Area and Its Current Land Cover



Summary of GHG emissions (Scenario 1) for new development plan of PT MP II (tCO₂e)

Section 8: Land Use Change Analysis (LUCA)

Land Use Change Analysis PT Mentari Pratama, Ketapang, Kalimantan Barat.

Name of Assessor: Hasan Muhtadin, Dzulfahmi Alam

Assessor Designation and Company: GIS expert for interpreting remote sensing imagery / PT. Mentari Pratama

Land Use Change Analysis (LUCA) was carried out using satellite images of several acquisition dates. LUCA is conducted following RSPO Remediation and Compensation Procedures (2015) which includes relevant cut-off dates to identify land clearance prior to HCV assessment and the NPP completion. The use of satellite imagery for analysis of land covers, does not always correspond to the cut-off periods specified by RSPO. However, due to the availability of good quality satellite image data (covered by clouds or poor image quality) in the intended period is not available, so the alternative satellite imageries that is close to the period determined by RSPO are used for the analysis. See Table below for the dates of image acquisition of satellite imagery data used in the LUCA.

Table 1. Satellite image data used in the LUCA PT MP II

Period	Satellite Imagery Data Used to Interpret data period	Source of Satellite Imagery Data
Before November 2005 (baseline)	Landsat TM 5 imagery, 6 th September 2005, path/row 120/061; CC 0%	earthexplorer.usgs.gov
November 1, 2005 – November 31, 2007	Landsat TM 5 imagery, 9 th May 2008 path/row 120/061; CC 5%	earthexplorer.usgs.gov
December 1, 2007 – December 31, 2009	Landsat 5 TM imagery, 1 st September 2009; path/row 120/061; CC 10%	earthexplorer.usgs.gov
January 1, 2010 – May 9, 2014	Landsat 8 OL1 TIRS imagery, 10 th May 2014; path/row 120/061; CC 8%	earthexplorer.usgs.gov
May 10, 2014 – November 15, 2018	Sentinel 2 imagery, 27 th Januari 2019; path/row T49MDT/R132; CC 5%	copernicus.eu
November 16, 2018 – April 21, 2023 (HCS/HCS assessment)	Sentinel 2 imagery, 21 st April 2023; path/row T49MDU/R132; CC 10%	copernicus.eu
HCV/HCS Satisfactory – proposed NPP	Sentinel 2 imagery, 25 th April 2024; path/row T49MDU/R132; CC 5%	copernicus.eu

See maps and table below for the satellite imagery and results of landcover analysis depicting landcover change occurred in PT MP II.

Table 2. Result of Land Cover Analysis for each period

Land cover	Before	31 st Nov	31 st Dec	9 th May	15 th Nov	Apr	Apr
	1 st Nov 2005	2007	2009	2014	2018	2023	2024
	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)
Degraded Forest	61.46	61.46	59.59	72.59	73.56	79.08	75.47
	2.71%	2.71%	2.63%	3.20%	3.24%	3.48%	3.32%
Mix Rubber	1,381.60	1,398.10	1,382.62	1,425.49	1,425.37	1,366.49	1,365.22
	60.86%	61.59%	60.91%	0.00%	62.79%	60.20%	60.14%
Scrub	174.01	174.01	173.18	191.05	199.85	135.49	135.49
	7.67%	7.67%	7.63%	8.42%	8.80%	5.97%	5.97%
Cultivated Land	404.59	432.11	365.42	414.75	425.75	408.62	401.99
	17.82%	19.03%	16.10%	18.27%	18.75%	18.00%	17.71%
Oil Palm	-	-	-	-	44.37	150.76	150.76
	0.00%	0.00%	0.00%	0.00%	1.95%	6.64%	6.64%
Open Land	248.42	204.40	289.26	166.20	101.17	129.64	141.15
	10.94%	9.00%	12.74%	7.32%	4.46%	5.71%	6.22%
Total (ha)	2,270.07	2,270.07	2,270.07	2,270.07	2,270.07	2,270.07	2,270.07
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Table 3. The period of Matrix of land cover change in the period of November 2005 – November 2007

Land cover		November 2007					Total (ha)
		Degraded Forest	Mixed Rubber	Scrub	Cultivated Land	Open Land	
November 2005	Degraded Forest	61.46					61.46
	Mixed Rubber		1,365.84			15.76	1,381.60
	Scrub			166.36		7.64	174.01
	Cultivated Land			2.08	395.43	7.08	404.59
	Open Land		32.26	5.57	36.68	173.90	248.42
Total (ha)		61.46	1,398.10	174.01	432.11	204.40	2,270.07

Table 4. The period of Matrix of land cover change in the period of November 2007 – December 2009

Land cover		December 2009					Total
		Degraded Forest	Mixed Rubber	Scrub	Cultivated Land	Open Land	
November 2007	Degraded Forest	59.59				1.87	61.46
	Mixed Rubber		1,337.17			60.93	1,398.10
	Scrub			166.00		8.01	174.01
	Cultivated Land				361.73	70.38	432.11
	Open Land		45.45	7.17	3.69	148.09	204.40
Total		59.59	1,382.62	173.18	365.42	289.26	2,270.07

Table 5. The period of Matrix of land cover change in the period of January 2010 – May 2014

Land cover		May 2014					Total
		Degraded Forest	Mixed Rubber	Scrub	Cultivated Land	Open Land	
January 2010	Degraded Forest	59.59					59.59
	Mixed Rubber		1,347.40			35.23	1,382.62
	Scrub	13.00		156.91		3.26	173.18
	Cultivated Land				344.71	20.71	365.42
	Open Land		78.09	34.13	70.04	106.99	289.26
Total		72.59	1,425.49	191.05	414.75	166.20	2,270.07

Table 6. The period of Matrix of land cover change in the period of May 2014 – November 2018

Land cover		November 2018						Total
		Degraded Forest	Mixed Rubber	Scrub	Cultivated Land	Open Land	Oil Palm	
May 2014	Degraded Forest	72.59						72.59
	Mixed Rubber		1,415.93			9.56		1,425.49
	Scrub	0.97		190.08				191.05
	Cultivated Land				403.00	8.71	3.05	414.75
	Open Land		9.45	9.77	22.76	82.90	41.33	166.20
Total		73.56	1,425.37	199.85	425.75	101.17	44.37	2,270.07

Table 7. The period of Matrix of land cover change in the period of November 2018 – April 2023 (HCV/HCS Assessment)

Land cover		April 2023						Total
		Degraded Forest	Mixed Rubber	Scrub	Cultivated Land	Open Land	Oil Palm	
November 2018	Degraded Forest	73.56						73.56
	Mixed Rubber		1,366.49			14.91	43.97	1,425.37
	Scrub	5.52		135.49		58.74	0.10	199.85
	Cultivated Land				400.89	15.67	9.18	425.75
	Open Land				7.72	40.31	53.14	101.17
	Oil Palm						44.37	44.37
Total		79.08	1,366.49	135.49	408.62	129.64	150.76	2,270.07

Table 8. The period of Matrix of land cover change in the period of April 2023 (HCV/HCS Assessment) – April 2024

Land cover		April 2024						Total
		Degraded Forest	Mixed Rubber	Scrub	Cultivated Land	Open Land	Oil Palm	
April 2023	Degraded Forest	75.47				3.61		79.08
	Mixed Rubber		1,365.22			1.27		1,366.49
	Scrub			135.49				135.49
	Cultivated Land				401.99	6.63		408.62
	Open Land					129.64		129.64
	Oil Palm						150.76	150.76
Total		75.47	1,365.22	135.49	401.99	141.15	150.76	2,270.07

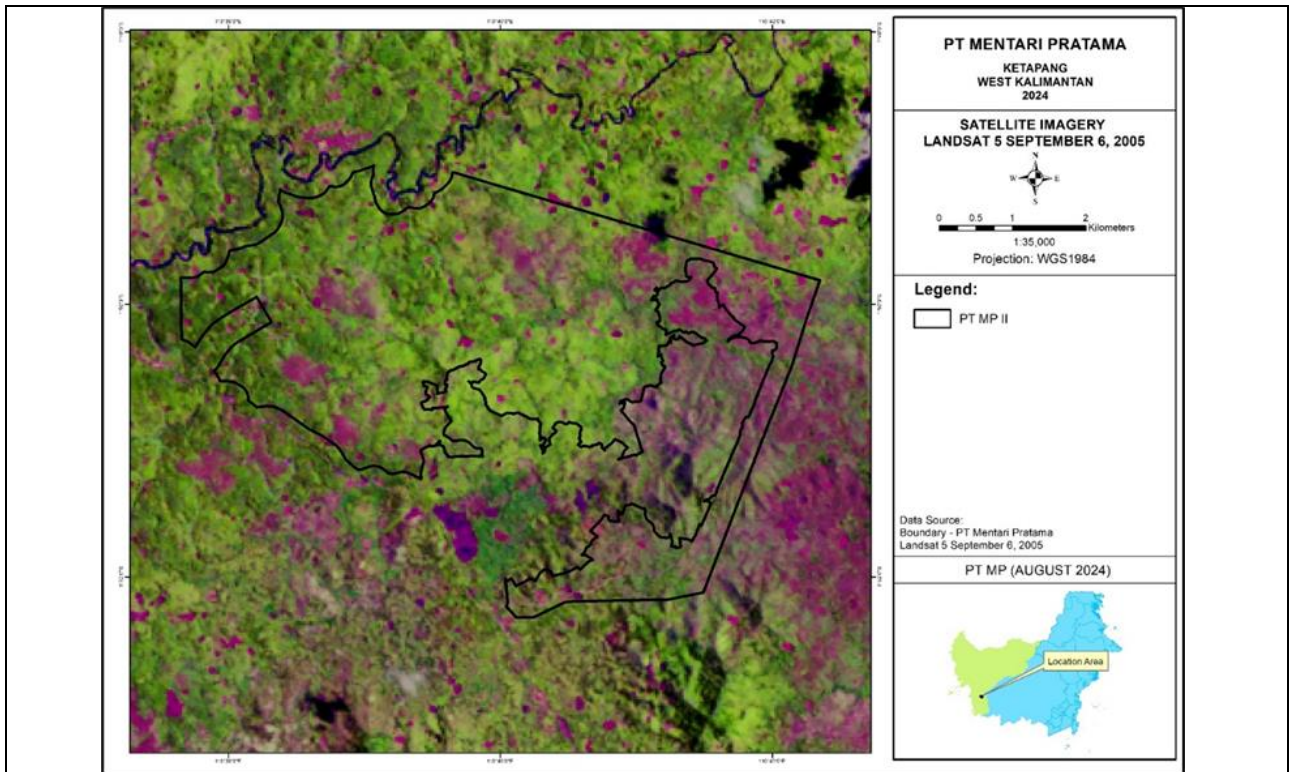


Figure 1. Satellite Imagery period November 2005 (Baseline) PT MP II

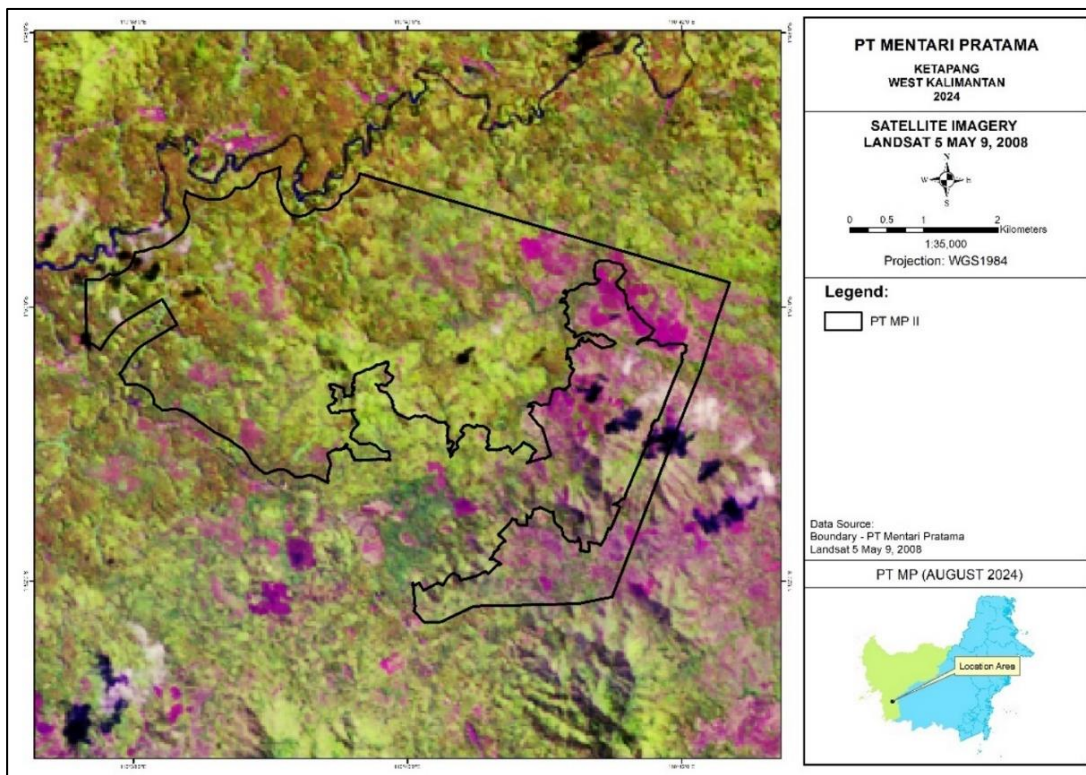


Figure 2. Satellite Imagery period November 31, 2007 PT MP II

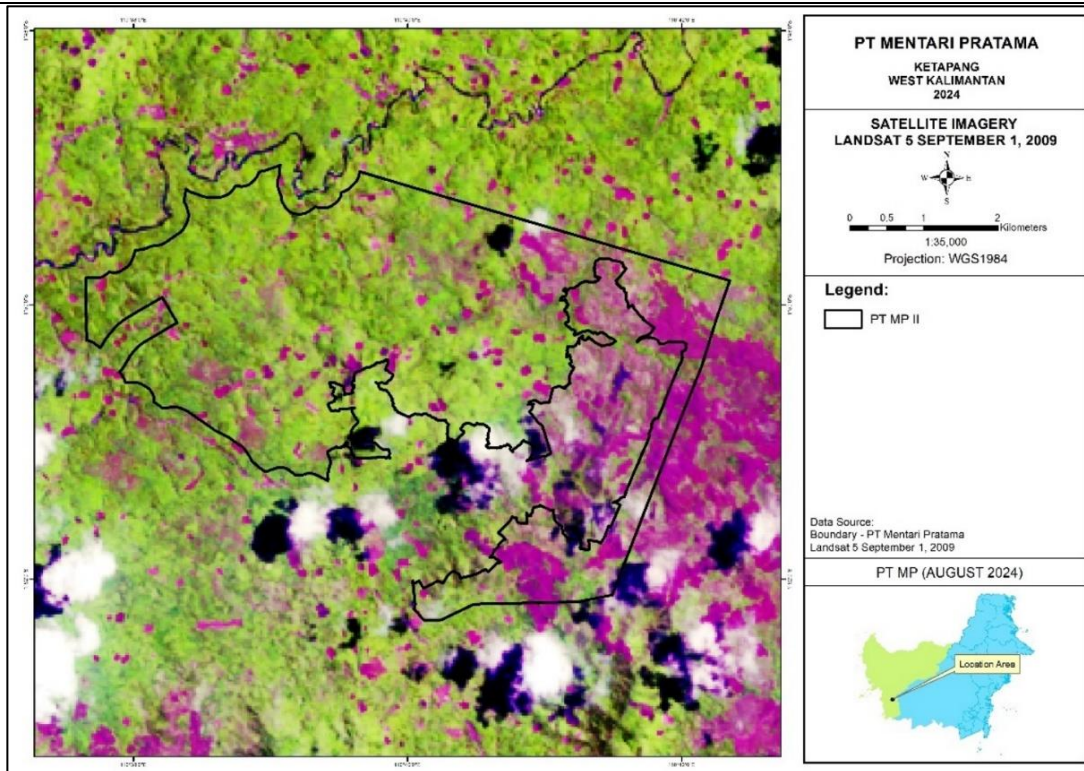


Figure 3. Satellite Imagery period December 31, 2009 PT MP II

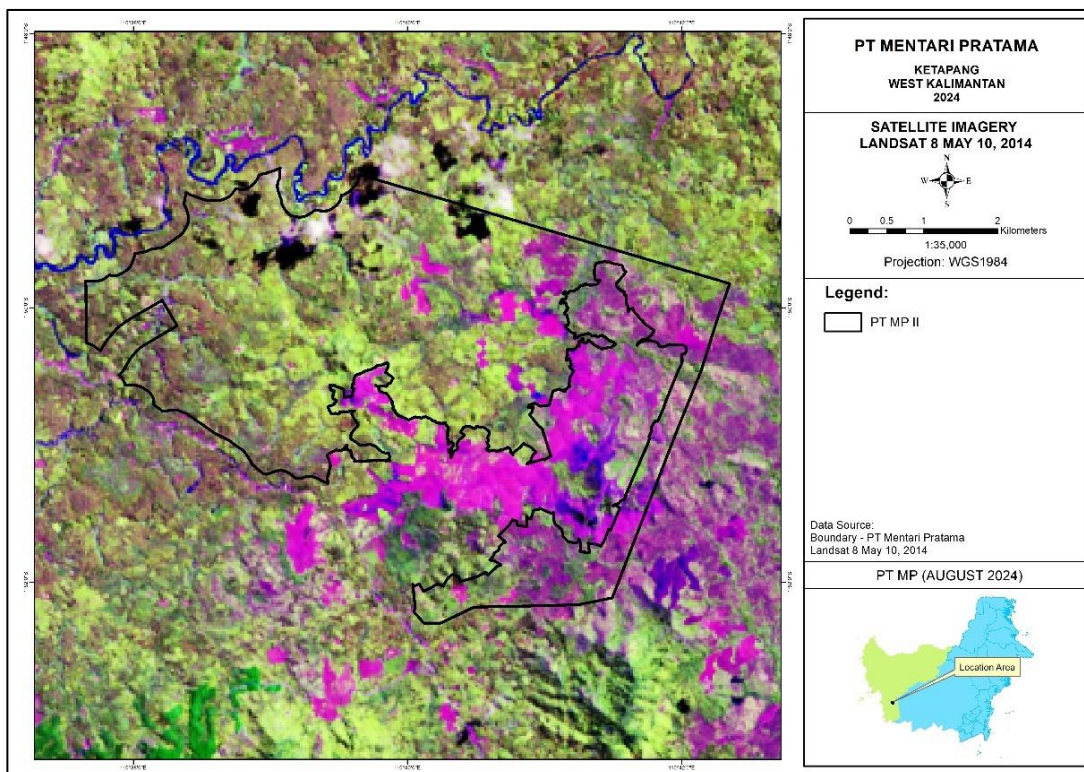


Figure 4. Satellite Imagery period May 9, 2014 PT MP II

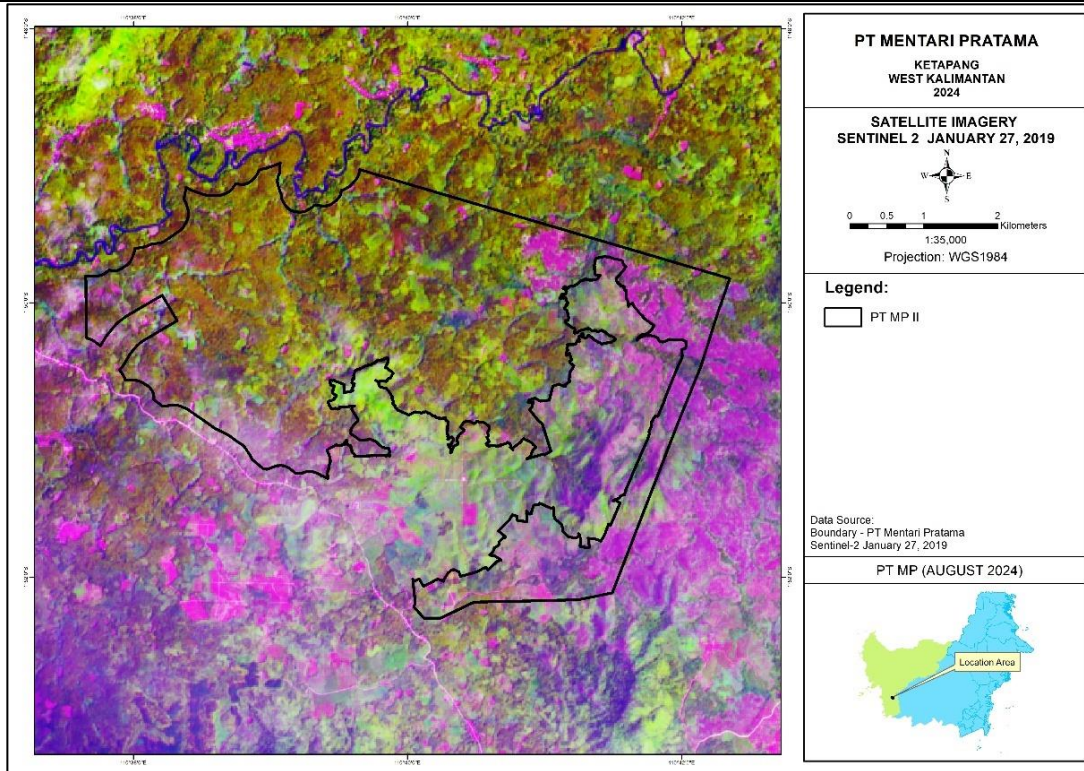


Figure 5. Satellite Imagery period November 15, 2018 PT MP II

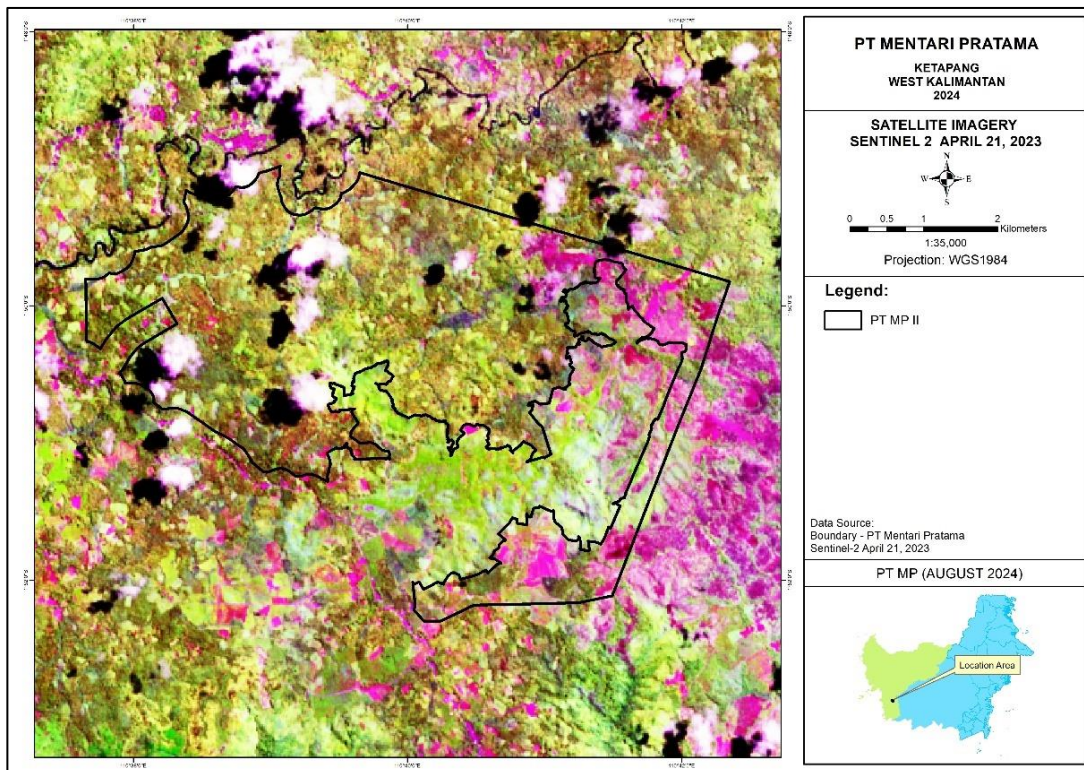


Figure 6. Satellite Imagery period HCV- HCS Assessment PT MP II

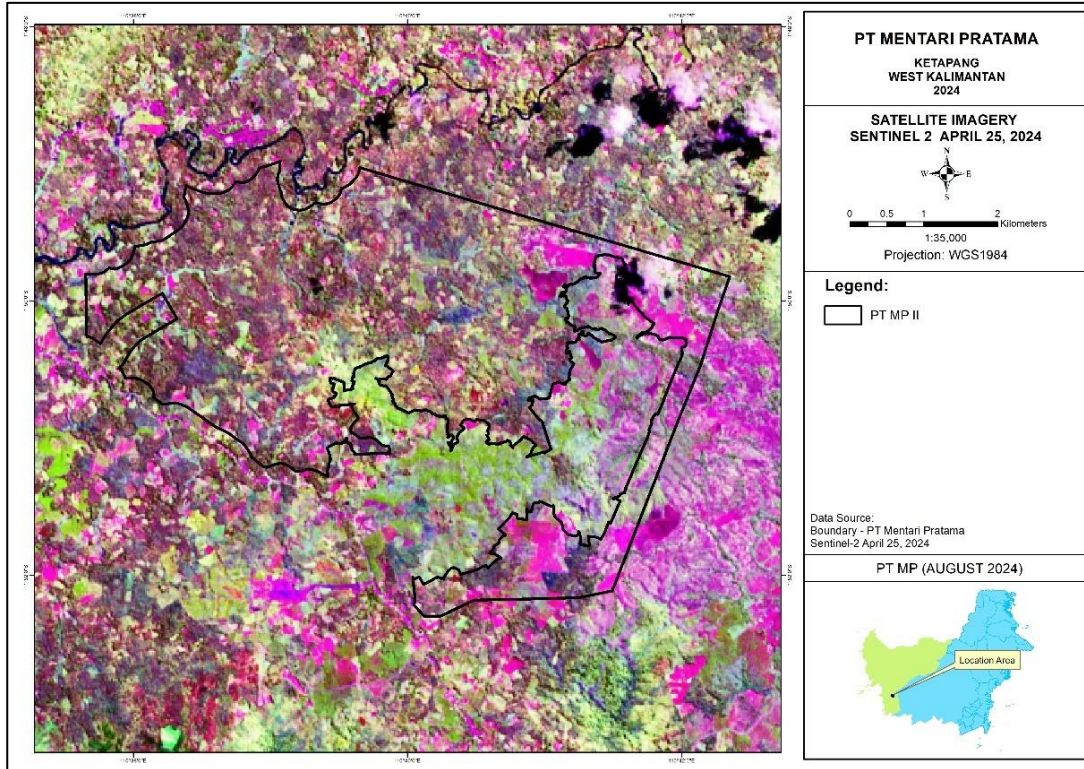


Figure 7. Satellite Imagery April 25, 2024 PT MP II

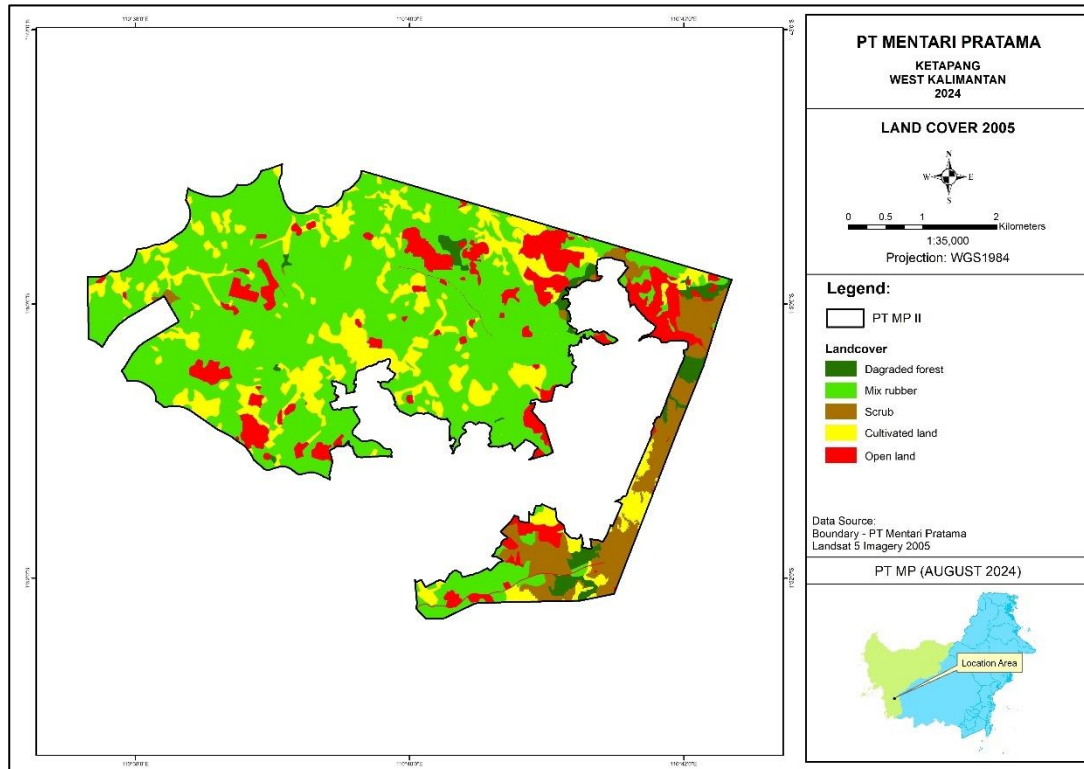


Figure 8. Land cover Period November 2005 PT MP II (Baseline)

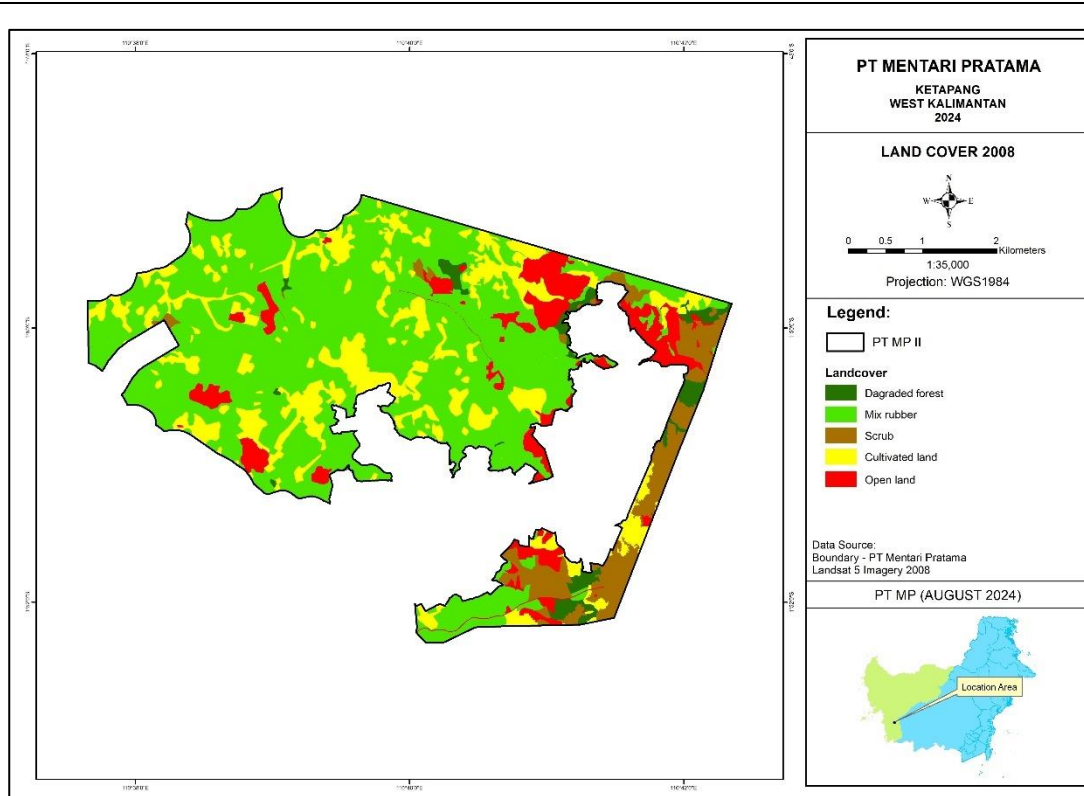


Figure 9. Land cover Period November 31, 2007 PT MP II

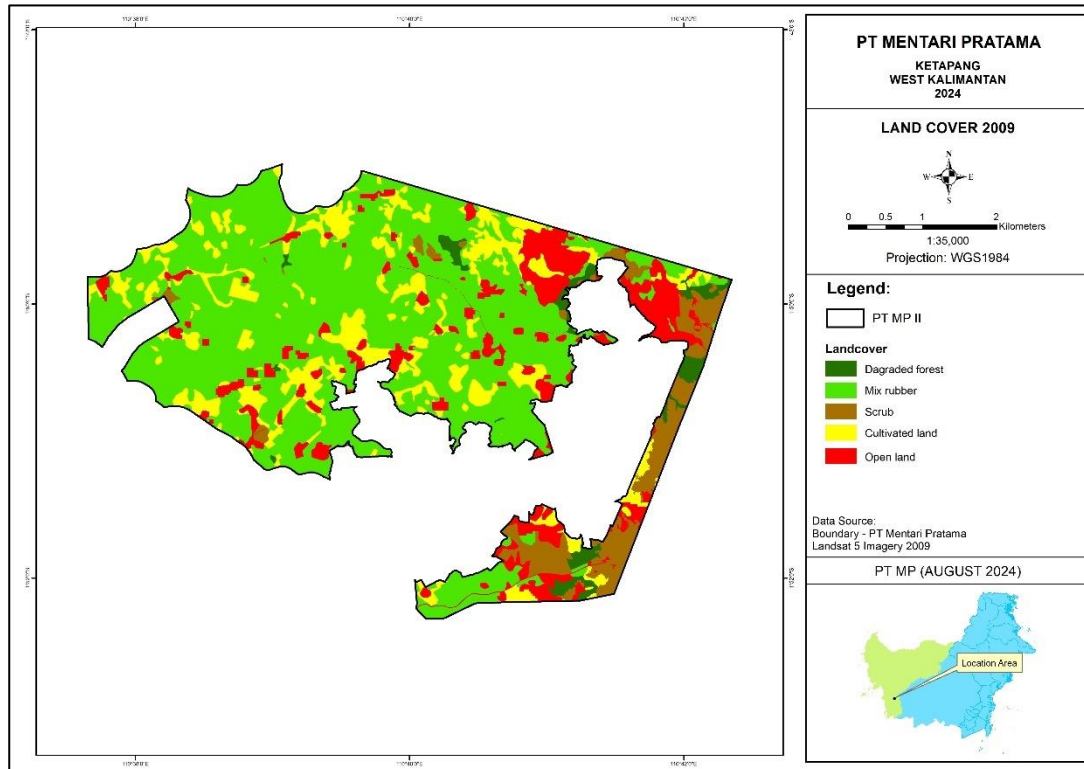


Figure 10. Land cover period December 31, 2009 PT MP II

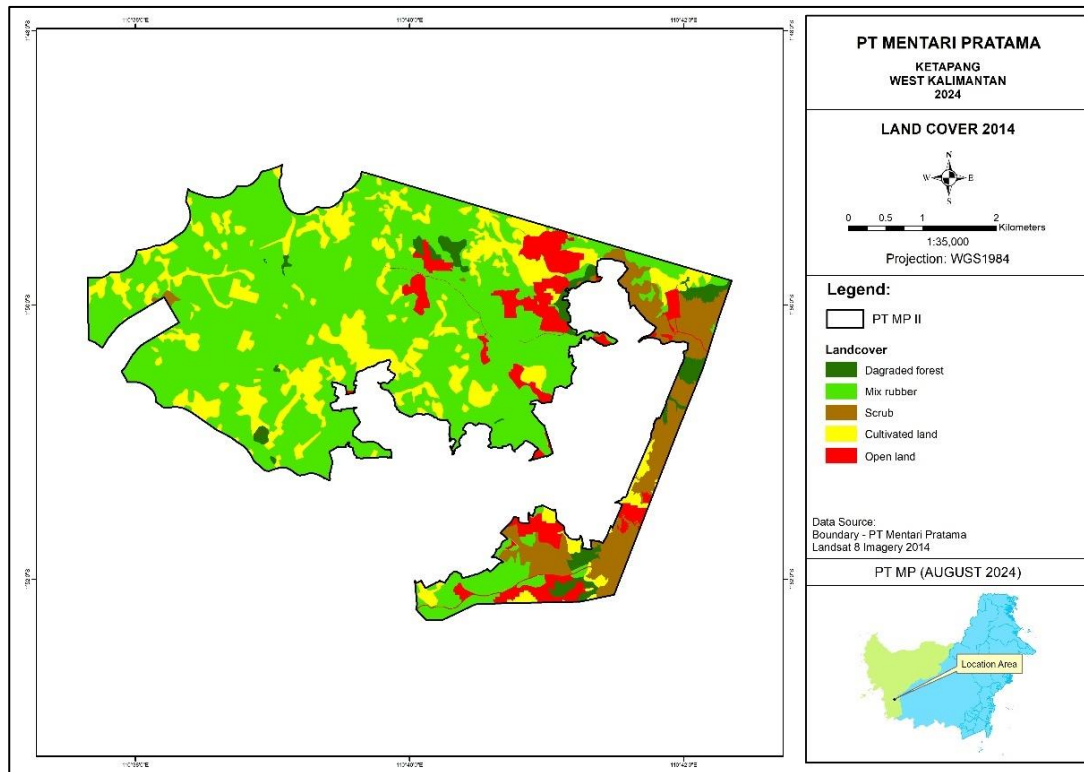


Figure 11. Land cover period May 9, 2014 PT MP II

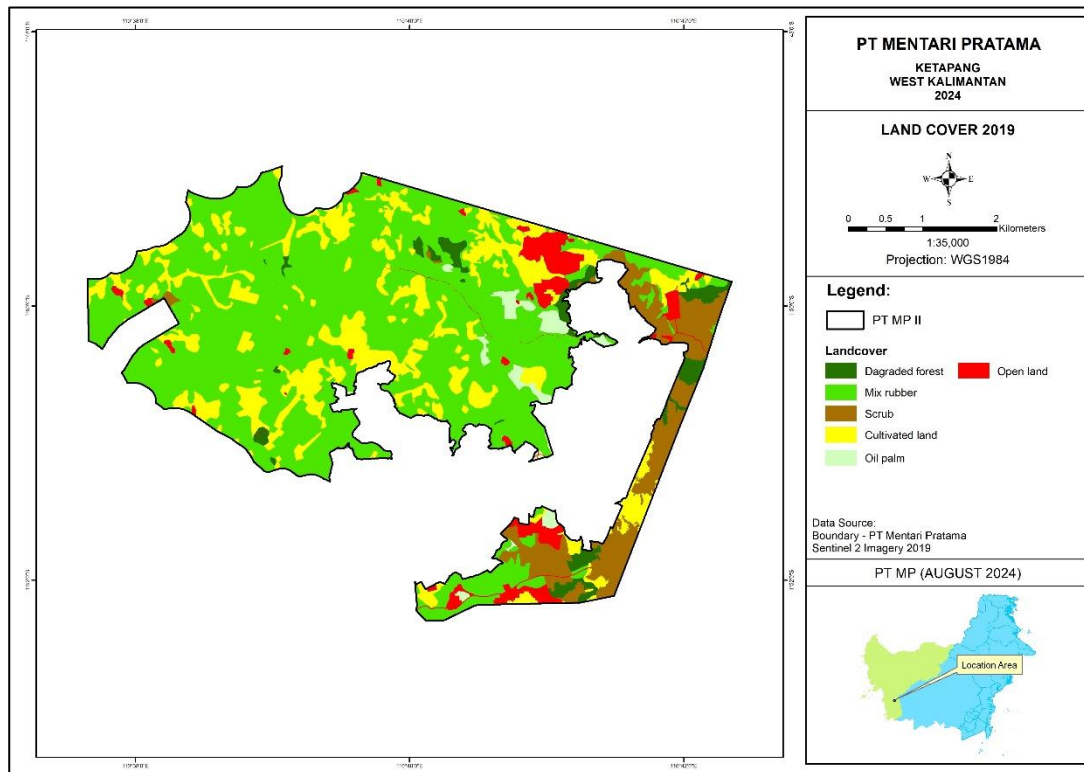


Figure 12. Land cover period November 15, 2018 PT MP II

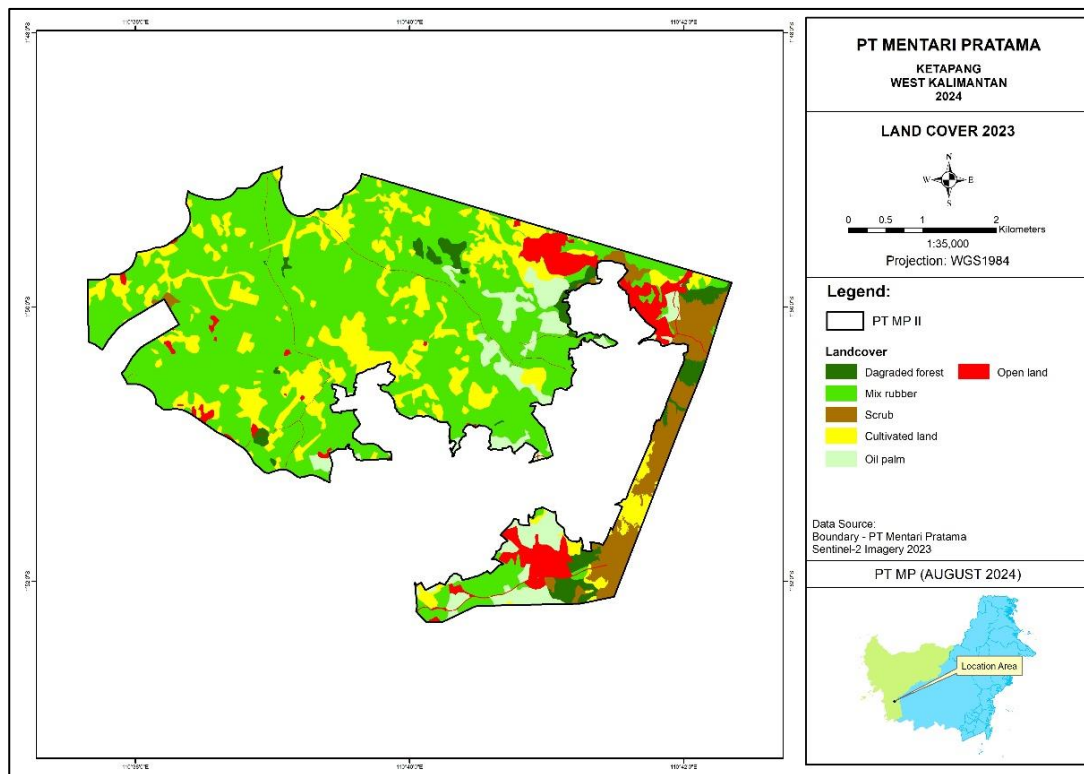


Figure 13. Land cover period HCV- HCS Assessment PT MP II

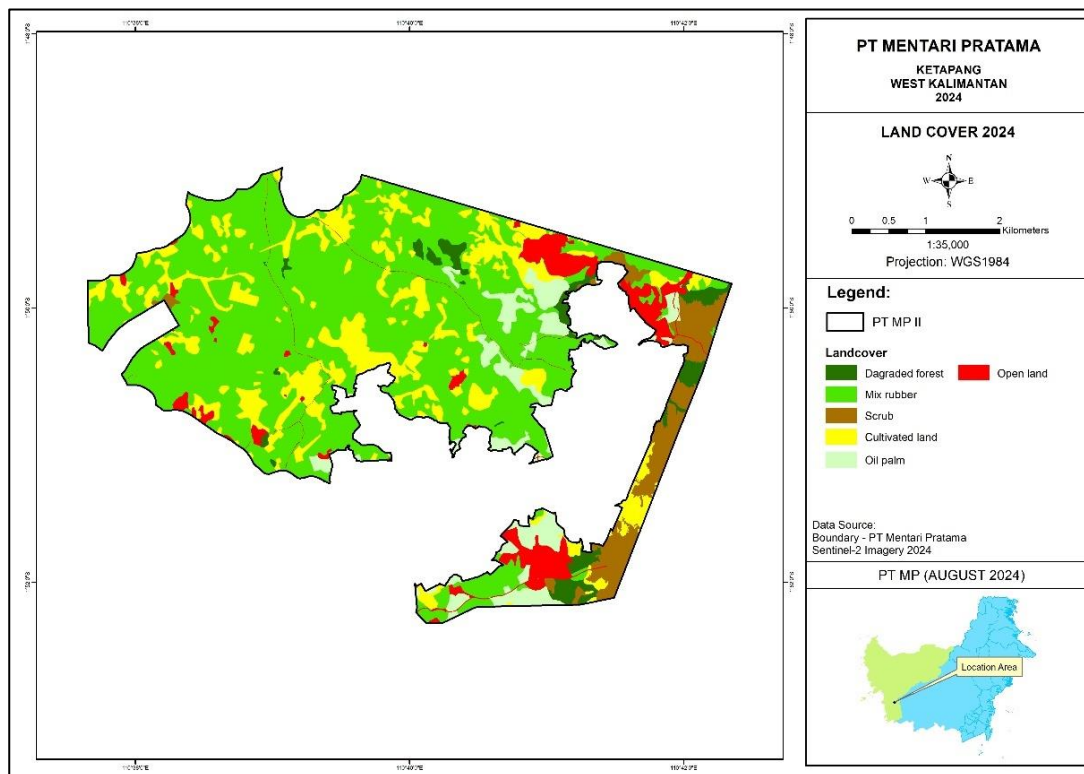


Figure 14. Land cover Imagery April 25, 2024 PT MP II

Section 9: Conclusions

1. SEIA

The Environmental Impact Analysis (UKL-UPL) carried out in the PT MP II area found that there was a potential negative impact of the planned business/activity on the environment and social. Impact evaluation shows that are possible environmental impacts during various stages (pre-construction, construction, operations and post-operations). For this reason, a management and monitoring plan is needed which aims to minimize these negative impacts and maintain these positive impacts.

In the Social Impact Assessment (SIA) found that every development activity will have an impact on the society and the environment. The positive and negative impacts of each plantation operation are listed. Therefore, companies need to carry out management and monitoring to minimize negative impacts and maintain or even increase positive impacts.

2. HCV-HCSA Assessment

The HCV-HCSA assessment identified that there is an area of 252.17 ha of land within the PT MP II operational area. Furthermore, there are several situations and activities that have the potential to pose a threat to the HCV-HCSA conservation area. To guarantee commitment to environmental and social protection, a management and monitoring plan is needed which aims to protect and improve the quality of HCV-HCS areas within the PT MP II area.

3. FPIC

The verification results of the implementation of FPIC principles in the management of PT MP II show that the FPIC processes have been initiated and conducted by the Company. The public already knows and understands the existence and operational activities of the Company. This has been done through initial meetings, FGDs, consultations, engagement and even affected community involvement by participatory mapping. However, continuous consistency is needed in the implementation of FPIC that has been running. For this reason, companies need to have an action and monitoring plan aimed at continuing the implementation of FPIC in accordance with available provisions and procedures as well as efforts to resolved issues or disputes with the community in future cases. If the company continues to implement FPIC and work carefully with the communities, this expansion can be considered a low-risk project.

4. Soil and Topographic Survey

The results of soil and topographic surveys carried out in PT MP II show that there are no peatlands or certain types of soil that need special attention in the PT MP II area. However, there are several locations that have steep slopes. Actually, this area has been categories HCV 4. So that in relation to soil and topography, management and monitoring are needed for areas with steep slopes to prevent landslides and erosion. Its management and monitoring will be in synergy with the management and monitoring of HCV areas.

5. Greenhouse Gas Assessment


The management scenario chosen by Scenario 1 produces potential GHG emissions of 0.51 tonCO₂e/ton CPO. Scenario 1 is selected because it provides the best balance between conservation and development. The conversion of these patches provide tangible economic benefit to the company and local people with minimum environmental impact. To ensure that GHG emission mitigation efforts are achieved, a management and monitoring plan is needed which aims to ensure the implementation of the selected management scenario. Ensure land clearing is carried out in accordance with designated areas and proposed for new development. Please note that there is no conversion of HCV and HCS areas in this proposed development.

6. LUCA

Liability calculation based on land cover change that has taken place since 2005 up to the Integrated HCV HCS Assessment (2023) indicates that the company has no compensation liability and no area is subject to environmental remediation. There is no compensation and remediation liability according to the RSPO Remediation and Compensation Procedure (RaCP). No operational plantation activity until PT MP II has undergone Integrated HCV HCS Assessment and completed NPP.

Section 10: Confirmation of Report

This document is a summary of the assessment results for compliance with PT MP's New Planting Procedures. The assessment team states that it is responsible for the assessment results included in this summary document and the Company Management states that it has accepted the assessment results and recommendations included in this summary document. All findings are accepted by the company and will be responsible for its ownership and development process for as long as it is within our control.

Date of Completion	22 August 2024
Signature	
Name	Suwandi
Position	General Manager PT. Mentari Pratama