Summary of Assessment Reports and Management Plans for NPP

PT Mitra Karya Sentosa

Sanggau Regency

West Kalimantan Province

Indonesia

October, 2022

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1. OVERVIEW AND BACKGROUND

1.1. General Information of the Management Unit

Company Name	: PT Mitra Karya Sentosa
Office Address	: APL Tower Central Park Lt. 28, Podomoro City. Jl. Letjend S. Parman Kav. 28 Grogol Petamburan, Jakarta Barat.
Investment Status	: Foreign Investment (PMA)
Parent Company	: First Resources, Ltd.
RSPO Member ID	: 1-0047-08-000-00
Date of Joining RSPO	: 10 March 2008
Contact Person	: sustainability@first-resources.com

PT. Mitra Karya Sentosa (MKS) concession area is located in an area of 9.688,91 ha (GIS data 9.686,30 ha, which used for the analysis), of which 5.276,00 ha is developed area (consisting 4.972,08 ha of existing oil palm plantations, and 303,92 ha of infrastructure) and 598.61 Ha of conservation area. The remaining area of 3,811.68 ha is a potential new planting area. The area status of the permit area of PT. MKS is most of the area with Business Use Rights (Hak Guna Usaha - HGU) with SK HGU No. 55 of 2010 6.404,05 Ha and SK HGU No. 93 of 2013 3.284,86 Ha. PT MKS obtained the IUP in 2015 with letter 17 of 2015, covering an area of 9.688,91 Ha. The new development plans for land cultivation in the permit area of PT. MKS is planned to be carried out in 2023 and start production in 2025. The type of commodity that the company has cultivated is palm oil.

PT. MKS is committed to sustainably managing oil palm plantations and adhere to no development on community land. In its journey of developing sustainable oil palm plantations, the company conducted an integrated HCV-HCSA assessment by ALS registered assessor. In addition to 598.61 Ha of conservation area, a total area of 8.386,81 Ha has been identified as HCV-HCS management area, with six high conservation values and high carbon stocks area. Although the area legal function serves no direct important functions to protect and conserve area nearby, the area is dominated by HCV 2 of the landscape ecosystems as it contains biodiversity distribution area-particularly orangutan and proboscis monkey, hilly areas, riparian, high carbon stock forest and social life support. There is no peat found in the development area based on both regulation and soil assessment conducted by the assessor.

1.2. Description of Location

Administratively, the location of the oil palm plantation development of PT. MKS is located in 4 villages divided into two sub-districts in Sanggau Regency, West Kalimantan. The four villages are Noyan and Semongan Villages (included in the administrative area of Noyan District) and Malenggang and Sungai Tekam villages (included in the administrative area of Sekayam District). The location of the PT MKS permit area geographically, government administration and distribution of watersheds (DAS) are presented in Table 1.

Table 1. Position and Location of PT MKS Permit Area

Description	Location
Geographyc	
• Permit Area	0° 42' 19,207"- 0° 50' 55991" SL 110° 37' 54,877" - 110° 43' 23,686 ES
• Landscape Border	0° 40' 39,949"- 0° 52' 35,389" SL 110° 33' 20,884" - 110° 44' 59,919 ES
Altitude	20 – 211 m asl (permit area) and 20 - 306 m asl (Border Landscape)
Government Administration	– Sanggau Regency (Noyan and Sekayam sub districts)
	– West Kalimantan Province
Operational Administratively	– Plantation Services of Sanggau Regency – Plantation Services of West Kalimantan Province
Daerah Aliran Sungai (DAS)	Sub DAS Ketungau dan Sekayam

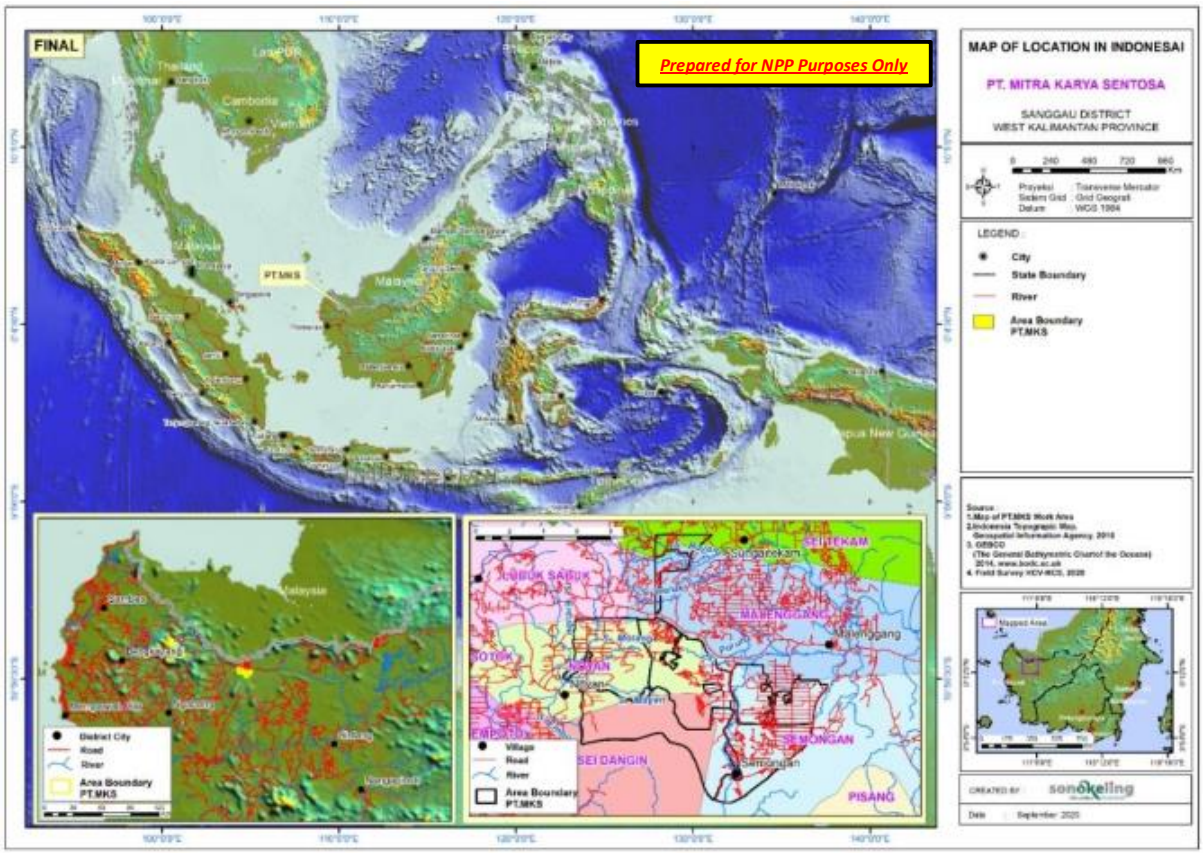


Figure 1. Map of Permit Area of the PT. MKS in Indonesia

National and Regional Contexts

Based on the Map of Forest and Aquatic of West Kalimantan Province Scale 1:250.000, No. SK.733/MoF-II/2014, In 2014, PT. MKS area of 9.686,30 ha (100.00%), including Other Use Areas (APL); according to the 2016 Regional Regulation (PERDA) concerning the West Kalimantan Province Spatial Plan, the area under the permit of PT. MKS includes a cultivation area of 9.686,30 ha (100.00%); Meanwhile, according to the Indicative Map of Postponing the Granting of New Permits for Forest Utilization, Use of Forest Areas and Changes in Designation of Forest Areas and Other Use Areas Revision XV in 2018, the permit area of PT. MKS is not included in the moratorium area.

PT. MKS, located on the island of Borneo, is part of the State of Indonesia. Judging from its zoogeography, the fauna in the Kalimantan region is of the oriental type (West Indonesia Region),

where the typical wildlife includes: Asian elephant (*Elephas maximus*), orangutan (*Pongo pygmaeus*), and proboscis monkey (*Nasalis larvatus*). In connection with the above, the island of Borneo in a regional context, is one of the most important locations for the preservation of the endemic flora and fauna of the island of Borneo, the flora of Malesiana, and the fauna belonging to the oriental type (Asian elephants, orangutans, and proboscis monkeys). Therefore, preserving flora and fauna on the island of Borneo will affect the sustainability of flora and fauna in Southeast Asia.

The preservation of flora and fauna on the island of Borneo will affect the sustainability of flora and fauna in Southeast Asia. However, it is found within PT. MKS concession, there is no critical areas found, which are Ramsar sites, heritage areas, protected forests, conservation areas, species of global concern (Orangutans and Proboscis monkeys), the presence of animal migration corridors in the landscape, Peat Hydrological Unit (KHG), IBA (Important Bird Area) and EBA (Endemic Bird Area) areas. However, there is some of the area is categorized as orangutan distribution area. In this regard, the permit area in the national context, PT MKS does not provide an important supporting function for protected forests and/or conservation areas in the vicinity or KHG.

Area of Interest (boundaries)

The landscape boundary assessment in the PT. MKS is determined based on the wider landscape, where the buffer created is 5 km from the boundary of the PT. MKS. In this study, the AoI boundary is determined from a combination of watershed/sub-watershed landscape boundaries, biodiversity, and social. PT. MKS is located in the northern part of the Kapuas watershed. Based on these criteria, the boundaries of the Ketungau and Sekayam sub-watersheds are the database for determining the AoI limits. In the context of biodiversity, the closest natural vegetation land cover is included in the AoI: forest fragments in the northwest, southwest, south and southeast. This study's AoI area or landscape covers a total size of ± 21.225,67 ha (Figure 2).

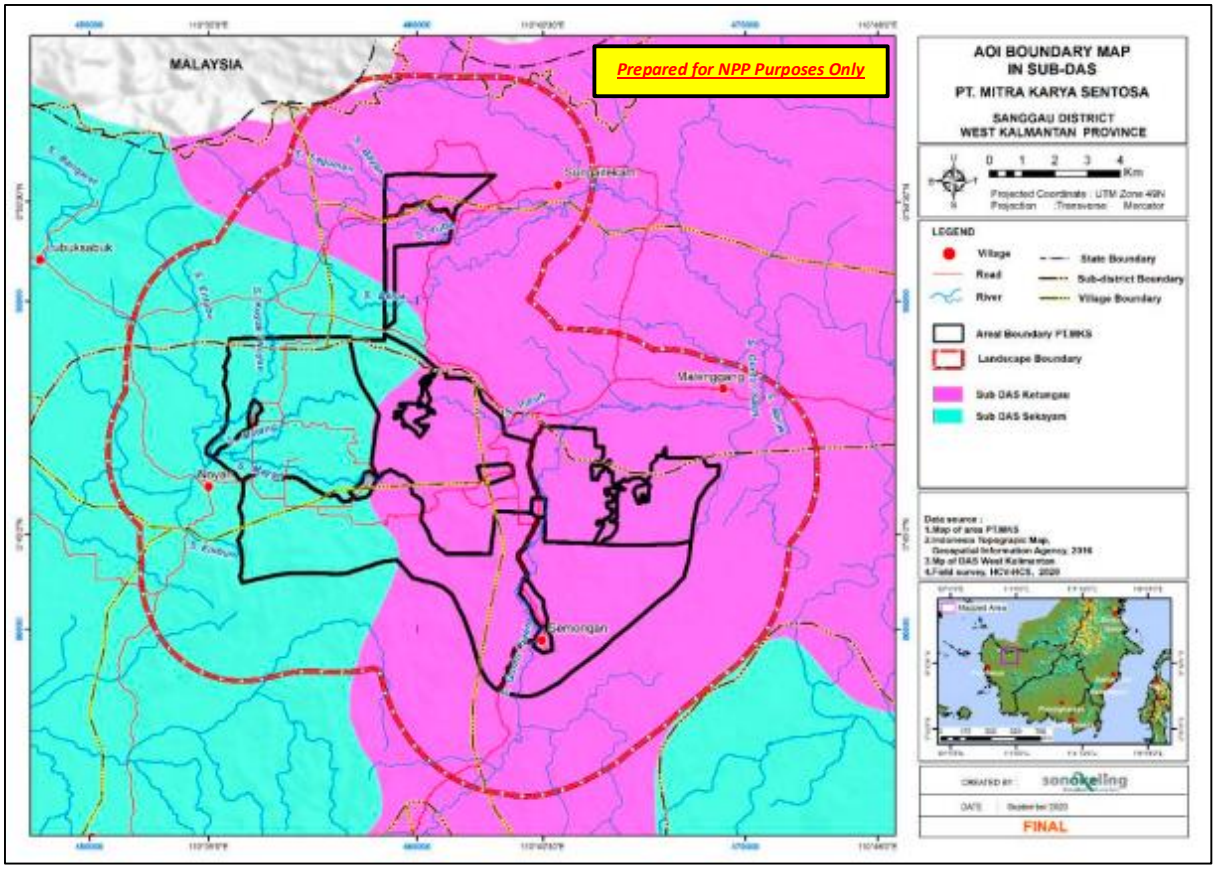


Figure 2. AoI Boundary Map Indicating Sub-Watershed Permit Area of PT. MKS

Physical Landscape

In general, the climate in the permit area of PT. MKS is based on rain data obtained from the Flood Control and Coastal Observation Project Station, Director General of Natural Resources, West Kalimantan, in 2008 – 2010 and Supadio Climatology Station, Pontianak, in 2011 - 20177, according to the Schmidt-Ferguson classification system (1951), including climate type A (very wet), with 12 months of wet months, no wet and dry months. Rainfall in the region for ten years fluctuates. Annual rainfall in the concession area of PT. MKS for 10 years ranges from 2.419 – 4.709 mm and the number of rainy days ranges from 98 - 257, with an annual average rainfall of about 3.348 mm and the number of rainy days around 182 days.

MKS is located at an altitude ranging from 20 – 211 m above sea level, while its surroundings range from 20 – 306 m above sea level. Based on the slope class, the slope class is within the permit area of PT. MKS ranges from flat to very steep (0 - >40%); while the surrounding area ranges from flat to very steep (0 - >40%).

Based on the land system map from RePPProT (1987) it can be seen that in the concession area of PT. MKS consists of 4 (four) land systems, while around the permit area PT. MKS consists of 6 (six) land systems: Bukit Pandan, Honja, Lawanguwang, Maput, Pakalunai and Teweh.

Based on the land system map from RePPProT (1987), the geological formations within the permit area of PT. MKS consists of 4 (four) kinds of geological formations around the permit area of PT. MKS consists of 5 (five) kinds of geological formations: Kelompok Balai Sebut, Formasi Pedawan, Endapan Aluvial, Batuan Gunungapi Serian and Formasi Sadong.

Based on the land system map from RePPProT (1987), the type of soil found in the permit area of PT. MKS can be divided into 4 (four) kinds of soil type associations; while in the vicinity of the permit area of PT. MKS consists of 6 (six) soil type associations: Dystropepts Tropudults Haplorthox, Dystropepts Tropudults Paleudults, Paleudults Tropudults Tropoquepts, Tropudults Paleudults, Tropudults Dystropepts and Tropudults Paleudults Dystropepts.

PT. MKS is landscaped in the Ketungau and Sekayam sub-watersheds, within the permit area of PT. MKS found nine rivers/tributaries, namely S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba;. In comparison, in the vicinity found as many as nine rivers. The condition and characteristics of the river contained in the permit area of PT. MKS indicated that the permit area of PT. MKS is located between the upstream and downstream of the river, in the permit area of PT. MKS contains areas or ecosystems that are important as water providers and flood control for downstream communities, namely river borders and areas around springs.

Biodiversity Landscape

There are varius area around the permit of PT. MKS includes several rare, threatened, and/or endangered flora species found at the landscape level, including: Ribu-ribu (*Anisophyllea rhomboidea* Baill), Agatis (*Agathis borneensis* Warb.), Penyu Abo (*Anisoptera marginata* Korth.), Keruing (*Dipterocarpus geniculatus* Vesqu, *Dipterocarpus mundus* Sloot., *Dipterocarpus stellatus* Vesque and *Dipterocarpus tempehes* Sloot.), Keladan (*Dryobalanops aromatica* CFGaertn.), Pohon Kapur (*Dryobalanops fusca* Sloot.), Kapur Paya (*Dryobalanhorea acuminatiss* Beccitna.), Pakit (*Shorea acuminatissima* Dyer.), Meranti (*Shorea albida* Sym, *Shorea cordata* PS Ashton, *Shorea elliptica* Burck, *Shorea obovoidea* Sloot., *Shorea obscura* Meijer, *Shorea quadrinervis* Sloot., *Shorea richetia* Sym., *Shorea slooteni* Wood ex PS Ashton and *Shorea splendida* (de Vriese) PS Ashton), Lun Putih (*Shorea induplicata* Sloot.), Bangkirai (*Shorea laevis* Ridley), Meranti Putih (*Shorea lamellata* Foxw.), Pengerawan (*Shorea platycarpa* Heim), Terindak (*Shorea seminis* (de Vriese), Meranti batu (*Shorea uliginosa* King.), Resak (*Vatica congesta* P.S. Ashton), Ulin (*Eusideroxylon zwageri* Teijsm. & Binn.), Pekawai (*Durio kutejensis* (Hassk.) Beccari), Kumpang/Darah-darah (*Knema krusemaniana* WJ de Wilde, *Knema kunstleri* (King) Warb. *ssp. leptophylla* WJ de Wilde, *Knema kunstleri* (King) Warb. *ssp. leptophylla* WJ de Wilde, longepilose (WJ de Wilde) WJ de Wilde) and *Knema uliginosa* Sinclair), Bedaru (*Cantleya corniculata* (Becc.) RA Howard), Gaharu (*Aquilaria malaccensis* Lamk.), Ramin

(*Gonystylus bancanus* (Miq., *Gonystylus augescenny* and Gos Ridl. xylocarpus Airy Shaw Kurz), Bunga Patma (*Rafflesia tuanmudae* Becc.), Ketupat semang (*Nepenthes gracilis* Korth.) and plants from the Orchidaceae family (Sidiyasa (2015), Ministry of Environment and Forestry (2016), Balai Besar Bukit Baka Bukit Raya National Park, (2019)).

1. Protected Forest. Protected Forest (HL) around PT. MKS is HL. G. Buduk (to the south). The HL is about 0.4 km from the permit area of PT. MKS, HL Gunung Nahi (on the west) is 3 km away, and HL G. Bengkawan (G. Teriyang) on the southeast is 4.2 km away. The land cover of HL is secondary forest and shrubs, while the land cover is between the concession areas of PT. MKS, with a protected forest, is dominated by shrubs, mixed-rubber plantations, and oil palm plantations.
2. Conservation Area. The conservation area around the permit area of PT. MKS is the G. Nyiut Nature Reserve - Penrissen. The Nature Reserve (Cagar Alam/CA) is located in the west. The CA is located not adjacent to the permit area of PT. MKS and is about 31 km. The land cover condition of CA G. Nyiut - Penrissen is mostly secondary forest, while the cover between the concession areas of PT. MKS with nearby conservation areas are dominated by shrubs, mixed rubber plantations, and oil palm plantations.
3. Area of EBA (Endemic Bird Area). The EBA area around the PT. MKS is located in the west, namely EBA Borneo Mountain. The closest distance between the EBA area and the area is about 39 km. The land cover condition of the EBA area is mostly in the form of secondary forest and shrubs, while the land cover between the concession areas of PT. MKS with the nearest EBA area is dominated by shrubs, mixed rubber plantations, and oil palm plantations.
4. Area of IBA (Important Bird Area). The nearest IBA area around the PT. MKS is located in the west, namely IBA Gunung Niut-Poteng. The closest distance between the IBA area and the area is about 31 km. The land cover condition of the IBA area is mostly secondary forest, while the land cover between the permit areas of PT. MKS with the nearest IBA area is dominated by shrubs, mixed rubber plantations, and oil palm plantations.
5. Peat Hydrological Unit (KHG). The nearest Peat Hydrological Unit (KHG) area around the PT. MKS is peat in the southwest and is not directly adjacent to the permit area of PT. MKS and is about 31.00 km.

The types of fauna found at the landscape level include: (1) mammals, among others: Beruk (*Macaca nemestrina*), Proboscis monkey (*Nasalis larvatus*), White-headed langur (*Presbytis frontata*), Red langur / Classi (*Presbytis rubicunda*), Deer (*Muntiacus atherodes*), Muncak deer (*Muntiacus muntjak*), Borneo Bokol (*Lariscus hosei*), Napu (*Tragulus napu*), Sambar deer (*Cervus unicolor*), Clouded leopard (*Neofelis diardi*), Bornean orangutan (*Pongo pygmaeus*), White-bearded Gibbon (*Hylobates albibarbis*), Kalawat gibbon (*Hylobates muelleri*), Kukang Kalimantan (*Nycticebus menagensis*), Peusing pangolin (*Manis javanica*), bats (*Pteropus vampyrus*), Striped squirrel (*Tupaia dorsalis*), Long-tailed squirrel (*Tupaia longipes*), Musang luwak (*Paradoxurus hermaphroditus*), Bearded pig (*Sus barbatus*), Krabuku ingkat (*Tarsius bancanus*), Sun bear (*Helarctos malayanus*), Bintunrong (*Arctictis binturong*) (2) birds, including: Rat Eagle (*Elanus caeruleus*), Enggang klihingan (*Anorrhinus galeritus*), Kangkareng perut-putih (*Anthracoceros albirostris*), Rangkong badak (*Buceros rhinoceros*), Rangkong gading (*Rhinoplax vigil*), Cicadaun kecil (*Chloropsis cyanopogon*), Kipasan belang (*Chloropsis cyanopogon*), Tiong emas (*Gracula religiosa*), Serak bukit (*Phodilus badius*), Cucak rawa (*Pycnonotus zeylanicus*), (3) herpetofauna, including: Cobra (*Naja sumatrana*), House gecko (*Gekko gecko*), python (*Python reticulatus*), Labilabi (*Dogania suplana*), Asian water monitor lizard (*Varanus salvator*), Turtle bromo (*Caretta caretta*), Green turtle (*Chelonia mydas*), Hawksbill turtle (*Eretmochelys imbricata*), Hawksbill turtle (*Lepidochelys olivacea*), Siamese crocodile (*Crocodylus siamensis*), Estuary Crocodile (*Crocodylus porosus*) Leatherback turtle (*Dermochelys coriacea*), Tortoise thorns (*Heosemys spinosa*), Bajuku (*Orlitia borneensis*) and Kalimantan monitor lizards (*Lanthanotus borneensis*) and (4) fish, including: Siluk Kalimantan (*Scleropages formosus*) (Ministry of Environment and Forestry (2016), Bukit Baka Bukit Raya National Park, (2019)).

Of some important species on Borneo Island, there is one type of wildlife that have high conservation status are known to exist in the province of West Kalimantan Sanggau in particular districts namely Borneo Orangutan (*Pongo pygmaeus spp. pygmaeus*). Almost the entire permit area of PT. MKS is included in the distribution area of the Bornean Orangutan. Map of the distribution of the Bornean Orangutan in and around the PT. MKS.

Within the permit area of PT. MKS did not find any Protected Forest (HL), conservation area, IBA area, EBA area and Peat Hydrological Unit (KHG); however, these five areas were found around the PT. MKS. In this regard, the permit area of PT. MKS does not provide a supporting function for biodiversity areas in the landscape (conservation area, protected forest, EBA area, IBA area and Peat Hydrological Unit).

Socio-Economic and Cultural Context

Administratively the permit area of PT. MKS is located in 4 villages in two subdistricts, namely Noyan District (Noyan and Semongan Village) and Sekayam District (Malenggang Village and Tekam River), Sanggau Regency, West Kalimantan Province.

Geographically, Sanggau Regency is in the middle and its position is in the north of West Kalimantan Province. Sanggau Regency as a whole has an area of 12.857,70 km2 with an average population density of 35 people/km2. The largest area is owned by the Jangkang District with an area of 1.589,20 km2 or about 12,36% of the total area of the district. While the smallest sub-district is Balai District with an area of 395,60 km2 or about 3.08% of the total district area. In general, Sanggau Regency is a highland area that is hilly and swampy which is fed by several rivers, including: the Kapuas River, the Sekayam River, the Mengkiang River, the Kambing River, and the Tayan River. Kapuas River is the longest river in West Kalimantan Province. HGU area of PT. MKS can be accessed by land from Pontianak (Supadio Airport) for ± 6 - 7 hours with quite good road conditions (already paved).

Sanggau Regency is one of the Level II Regions/Regions in West Kalimantan Province which has the fourth largest area (12,47%) of the Regency/City in West Kalimantan Province, after Ketapang Regency, Kapuas Hulu Regency and Sintang Regency. Based on Sanggau Regency data in 2019 figures, it was noted that the Sanggau Regency area consisted of 15 sub-districts and 169 villages with definitive status until the end of 2018.

The population of Sanggau Regency based on population projections in 2018 is 463.995 people, consisting of 239.490 male residents and 224.505 female residents spread over 15 sub-districts. The population growth rate of Sanggau Regency in 2010- 2018 was around 1.56 percent per year, lower than in 2000-2010 which was around 1.65 percent per year. Meanwhile, the sex ratio in 2018 was 107 male to female population. The population density in Sanggau Regency in 2018 reached 36 people/km². Population density in 15 sub-districts is quite diverse with the highest population density located in Parindu sub-district at 67 people/km² and the lowest in Toba District at 11 people/km².

Based on data from Sanggau Regency in 2019 figures, there are around 238.055 people aged 15 years and over who work. With a composition of about 144.678 males and 93.377 females. Based on the results of the 2018 National Labor Force Survey, the most widely cultivated business field is still in the agricultural sector which reaches 68,14 percent, followed by the trade sector at 10,20 percent.

In 2018, rice fields in Sanggau Regency were 53.106 Ha, an increase compared to 2017 which was 52.906 Ha. In 2017, non-rice field agricultural land was 818.111 Ha, then in 2018 it decreased to 816.992 Ha. Meanwhile, non-agricultural land increased to 415.672 in 2018 from 414.753 in 2017. The rice harvested area (paddy fields and fields) in 2015 was 41.017 hectares with a total production of 133.822,34 tons. From these results, lowland rice with a harvested area of 31.087 hectares, or about 75,79 percent of the total rice harvested area, can produce 107.830,23 tons of rice. While upland rice has a harvest area of 9.930 hectares with a total production of 25.992,11 tons. Then for horticultural crops including vegetables, fruits and biopharmaceuticals, the highest production is long beans, jengkol, watermelon, durian, makhota dewa and ginger. For long bean production, based on data from

Sanggau Regency in 2019 Figures, it is 5.514 quintals from 337 hectares. Meanwhile, the seasonal fruit is watermelon with the highest harvested area and total production of 656 quintals from 42 hectares. The annual fruit with the highest production is durian, amounting to 66.905 quintals. Meanwhile, the annual vegetable with the highest production is jengkol with 19.414 quintals. For the type of biopharmaceutical itself, namely the god's crown plant of 1.247,82 quintals. While the largest harvested area is ginger, which is 44,67 ha.

Residential settlements in the villages around the working area of PT. MKS, especially the indigenous tribes, namely the Dayak tribe, generally have an elongated settlement pattern following the highway, collected in several hamlets and are settled. Residential locations are also solidly located in one residential area. Each hamlet is in one area and several hamlets are separated from other hamlets so that the distance from one hamlet to another is quite far. For example, several hamlets in the villages of Semongan, Noyan and Sungai Tekam. To facilitate the management of gardens and fields, some of the residents have cottages in each of their fields and these lodges are usually located not far from the river. The main purpose of huts near or not far from the river is usually to make it easier for them to obtain water to meet their needs for clean water and toilets

The company's entry into several villages, especially companies that in their activities use a lot of land such as oil palm plantation companies, have changed the livelihood system of the community in general. This is because the company has acquired many residents' agricultural land. Thus, in order to continue to make a living, residents must look for other alternatives to work, for example by becoming laborers or company employees. On the other hand, this company has also absorbed a lot of labor in several villages close to the company. This condition is also experienced by villages that are located close to the area where the oil palm company PT. MKS.

Community economic activities can actually be seen from their livelihoods and land use patterns to meet their needs. The economic life of the population also depends on its natural potential. With the inclusion of several companies into the study area, currently the community's economic activities have become very diverse, where income sources are generally obtained from several sources of livelihood (multiple livelihoods). The livelihoods of the villagers around the PT. MKS, based on employment, is divided into Farmers in general rubber planters (30%) partly oil palm (20%), other Agriculture (10%) followed by Plantation Employees (25%), Entrepreneurs (5%), others are civil servants, traders, honorary and labor (10%).

Ethnic groups in the villages around PT. MKS is grouped into two parts, namely indigenous ethnic groups and immigrant ethnic groups. The original ethnic groups in this area are the Dayak ethnic group with the Bisomu sub-ethnic (Noyan District) or Dayak Bisomu and the Sebaru Iban (Sekayam) or Iban Sebaru Dayak sub-ethnic groups. Meanwhile, immigrant ethnic groups come from Java (Java and Sunda), Malay, Batak, Bugis, NTT, Padang and other ethnic groups whose percentage is not too significant. Ethnic migrants enter the West Kalimantan region, especially Sanggau, generally because of work, marriage, and looking for opportunities to do business, especially in plantations, agriculture and others.

Spatial Planning and Land Use History

Based on the Decree of the Minister of Forestry Number: 733/Menhut-II/2014 concerning the Map of Forest Areas and Water Conservation of West Kalimantan Province, Scale 1: 250,000 (SK 733 of 2014), the permit area of PT. MKS covering an area of 9.686,30 ha (100.00%) including Other Use Areas (APL); according to the 2016 Regional Regulation (PERDA) concerning the West Kalimantan Province Spatial Plan, the area under the permit of PT. MKS includes Cultivation Area of 9.686,30 ha (100.00%); Meanwhile, according to the Indicative Map of Postponing the Granting of New Permits for Forest Utilization, Use of Forest Areas and Changes in Designation of Forest Areas and Other Use Areas Revision XV in 2018, the permit area of PT. MKS is not included in the moratorium area.

People living around the permit area of PT. The majority of MKS are farmers, both gardeners, fields and rice fields. So do not be surprised if in the permit area of PT. MKS, initially had a land cover condition of areas that were converted into oil palm plantations in the form of secondary forest, rubber plantations, mixed gardens and fields. As previously explained, the pattern of land use or use by the community has changed, from forest to fields, then developing into rubber and oil palm plantations. This change in land use patterns carried out by residents is generally based on the reason that gardening, land and plant management is much easier to do. In addition, garden yields are considered to be far more profitable than farm produce. Another reason is that by gardening, it will give residents time to re-open the land while waiting for the garden plants to produce.

Image Analysis and Land Cover Classification

For the analysis of land cover stratification in the permit area of PT. PAM uses Sentinel-2 Imagery (S2A_20190412_B23488A10111) with a recording date of 12 April 2019. Sentinel-2 imagery was obtained from the European Space Agency (ESA) website by visiting the website address: https://sentinel.esa.int/web/sentinel/missions/ sentinel-2. The image selection is based on the best atmospheric conditions with cloud cover conditions of less than 20%, especially in the AOI coverage. In addition, the Sentinel-2 image includes a high resolution image with a wide swath and is a Multispectral Instrument (MSI) image which has 13 spectral bands of which 4 bands (Band 2, Band 3, Band 4, and Band 8) have a resolution of 10 m. Before being used to carry out land cover analysis, a pre-processing image is carried out, which consists of a compositing layer (3 bands combined). Layer compositing is done by combining band 11, band 8a and band 4 to get a pseudo-natural color on the Sentinel-2 image (Figure 3).

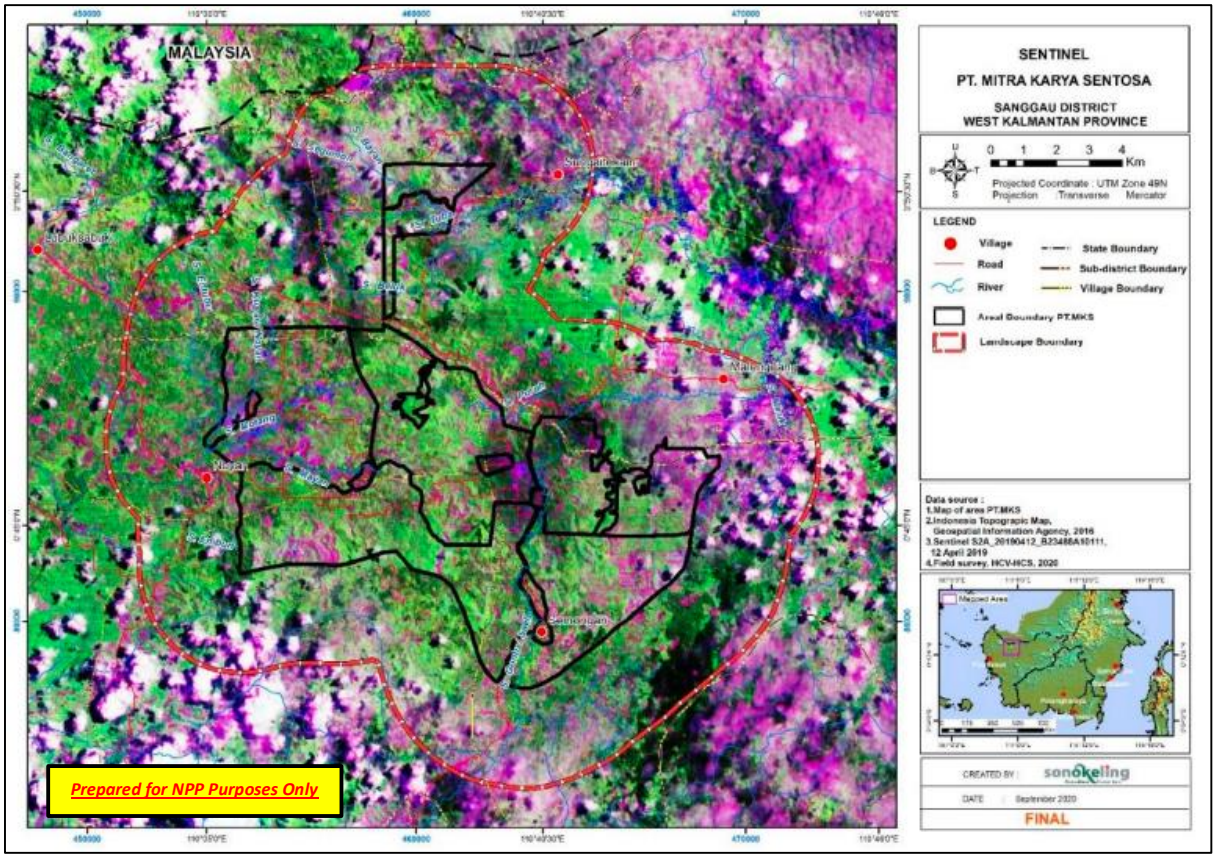


Figure 3. Sentinel-2 Satellite Imagery used in and around the permitted area of PT. MKS

The land cover classification used for the HCS Forest stratification analysis in the PT. MKS is an object-based approach and then corrected using visual interpretation. The segmentation process into homogeneous image objects is processed using the Feature Extraction facility from ENVI 5.3 software with edge algorithm at scale level 50, Full Lambda Schedule algorithm at merger level 75, and Texture

Kernel Size 5. Homogeneous image objects are then assigned to classes. HCS forest based on the decision rules (algorithm) spectral criteria through the NDVI (Normalized Difference Vegetation Index) transforming vegetation index approach and expert knowledge/consideration. Furthermore, the land cover classification resulting from the segmentation process is corrected or reclassified using visual interpretation based on expert knowledge/consideration and produces an initial land cover map.

Furthermore, the land cover classification resulting from the segmentation process is corrected or reclassified using visual interpretation using satellite imagery. The initial land cover classification was obtained from the results of correction or reclassification using visual interpretation based on samples from field checking/verification at the Pre-assessment activity stage which was processed using ArcGIS 10.1 software.

Table 2. Approximate range of carbon stock values in HCS land cover classes

Land Cover Class	Description
HCS Land Cover Category	
Density Forest HK	***Density Forest: High Density Forest (HK1), Medium Density Forest (HK2), Medium Density Forest (HK3).***
	Covered canopy natural forest varies from high to low density forest. Inventory data show the presence of trees> 30cm in diameter and
Young Regeneration Forest (HRM)	***Young Regeneration Forest***
	Old scrub or disturbed forest and in the regeneration stage to its original structure. The diameter distribution was dominated by trees with DBH 10-30 cm with a higher frequency of pioneer species compared to HK. In this land cover class there may be small areas in the form of agricultural areas (smallholder agricultural). **Note:** An abandoned plantation with a basal area of <50% consisting of tree crops may fall into this class category. Stand with basal area > 50% is not considered HCS forest, but rather as plantation land and should be classified separately.
B	Scrub
	Young scrub or land that used to be forest but has been cleared. Dominated by low scrub with limited canopy cover. Includes land with tall grass and ferns and scattered pioneer tree species. Some patches of old forest may also be encountered in this land category.
LT	Open Area
	The land that was recently cleared and mostly consists of grasses or crops. A little woody plant. This includes areas that are in the process of clearing land by the company.
Non-HCS Land Cover Category	
HT	***Plantation Forest***
	Large areas planted with trees (such as rubber, acacia)
AGRI	***Plantation - Agricultural***
	Smallholders agricultural with overlapping concession areas
MINE	***Mining Area***
	This area can be further differentiated between legal / licensed added areas from illegal / unlicensed mining areas.
SH	***Plasma Farmers and Utilization of Plasma***
	This area can be further distinguished as a smallholder agricultural in a heterogeneous mix which has a potential role as a wildlife corridor, a shifting cultivation system for subsistence food production etc.
Others	Water bodies such as rivers and lakes, construction areas, settlements,

The overall accuracy value generated from the initial land cover classification results to the training sample point is 90,29% with a kappa accuracy value of 87,41 %. This value is in accordance with the

standards set by the HCSA toolkit for initial land cover classification, which is more than 70%. The initial land cover is used as a reference for verifying land cover and taking biomass carbon samples.

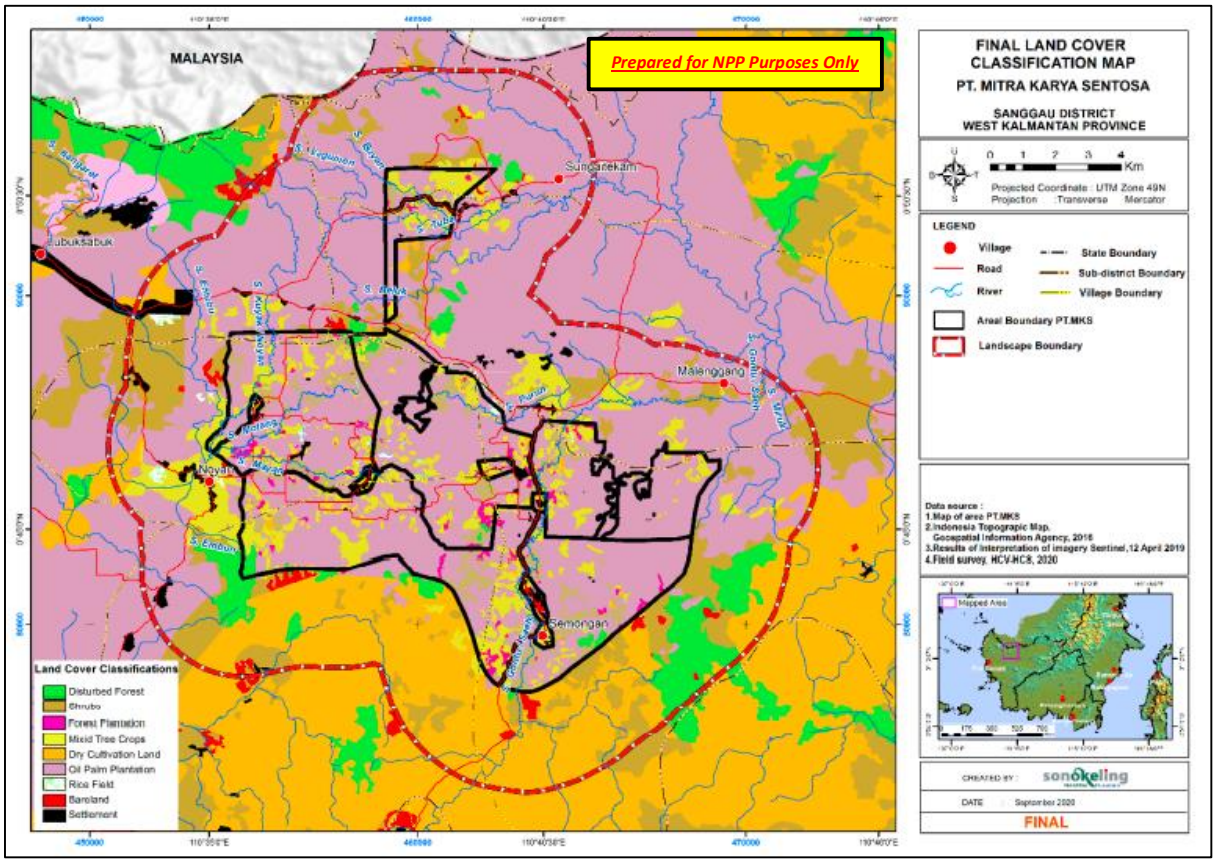


Figure 4. Map of final land cover classification in the permit area of PT. MKS

1.3. Area and Timeline for New Planting

Total management area is 9.686,30 ha, consisting of oil palm plantation 4.972,08 ha, infrastructure 303,92 ha, HCS and HCV 598,61 ha, and the rest is land bank for oil palm plantation. PT MKS will immediately delineate and demarcate HCV and HCS areas. The initial steps that have been taken are limited to socializing the existence of HCV and HCS areas that must be protected, both to internal and external parties. New planting in an area of 3.811,68 ha will start in 2023.

Table 3. Year planned of new planting in PT MKS

Planting Year Plan	Area (Ha)
2023	907,16
2024	911,67
2025	782,39
2026	640,02
2027	570,44
Sub Total	**3.811,68**

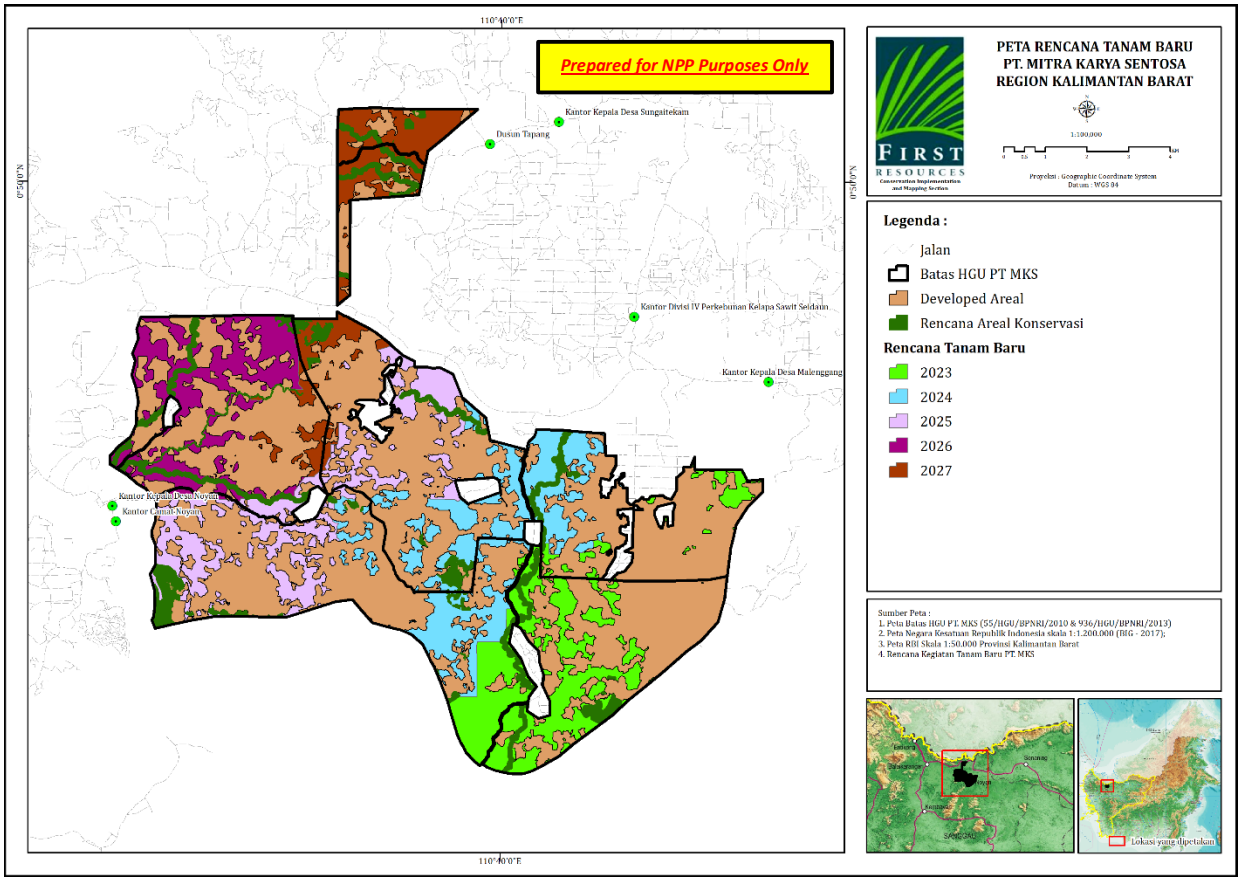


Figure 5. Map of the planned new planting locations

2. ASSESSMENT PROCESS AND METHODS

2.1. Social and Environmental Impact Assessment (SEIA)

Dates of Activities

The time for the field's Social Impact Assessment (SIA) is ten days, starting from January 12-21, 2020. Meanwhile, the SIA assessment location is in the oil palm plantation area of PT. Mitra Karya Sentosa (PT. MKS) includes four villages spread over two sub-districts in Sanggau Regency. Complete information on the village and the location of the SIA assessment can be seen in Table 4.

PT MKS conducted SEIA in 2009 and has obtained an Environmental Feasibility Letter through the Decree of the Regent of Sanggau Number 16 of 2009 concerning the Determination of the Environmental Feasibility of PT Mitra Karya Sentosa's Oil Palm Plantation Activities of ±11.300 Ha in Sekayam and Noyan Districts, Sanggau Regency, West Kalimantan Province.

In its development, it is estimated that the production of Fresh Fruit Bunches (FFB) will increase from PT Mitra Karya Sentosa's plantations as well as the supply of FFB from several partnership suppliers and the surrounding farming community which will be sold to PT Mitra Karya Sentosa, the management of PT Mitra Karya Sentosa plans to increase factory capacity from 60 ton FFB/hour to 80 ton FFB/hour. In addition, PT Mitra Karya Sentosa also plans to change the location of the palm oil mill construction.

With the increase in the capacity of the palm oil mill and the change in the planned location for the construction of the palm oil mill, the management of PT Mitra Karya Sentosa made an addendum to the SEIA in Arpil 2019 for the purpose of changing the Environmental Permit that was previously approved.

Table 4. Distribution of villages or locations of SIA assessment in permit area PT. MKS

No.	Village	Sub-district
1.	Noyan	Noyan
2.	Semongan	
3.	Malenggang	Sekayam
4.	Sungai Tekam	

Assessors and Their Credentials

SIA study in the HGU area of PT. Mitra Karya Sentosa (PT. MKS) is carried out by PT. Sonokeling Akreditas Nusantara (PT. SAN).

Name of Company : PT. Sonokeling Akreditas Nusantara
Address : Komplek Sari Inten N: 44, Ciomas, Bogor, Jawa Barat, 16610
Phone : (0251)-7521685
E-mail : sonokeling.san@gmail.com
Person responsible : Ir. Kresno Dwi Santosa, M.Si
Position : President Director

SIA study in the HGU area of PT. MKS is carried out by a consultant team of PT. SAN which has personnel Yayan Saryani, S.KPm. The areas that are occupied by the assessor are communication and community development, community social studies and participatory mapping, Social Impact Studies (SIA), and CSR (Corporate Social Responsibility) master plan.

Environmental Impact Statement (EIA) revision and Environmental Management and Monitoring Plan (RKL-RPL) are studied by PT. Alam Indo Lestari (Phone: +62561-6587348), an EIA Document Preparation Service Provider (LPJP) AMDAL. The EIA team consists of ten members and one leader.

Table 5. EIA team member and their credentials

No.	Name	Education	Role	Qualification
1.	Arry Kurniansyah, ST	Bachelor of Civil Engineering	Team Leader	• AMDAL A • AMDAL B • Certificate of Competency of SEIA Drafting Team Leader
2.	Rizal, S.Hut.	Bachelor of Forestry	Team Member	• SEIA Basics • SEIA Compiler • SEIA Drafting Team Member Competency Certificate
3.	Eta Fanani AR, S.Hut.	Bachelor of Forestry	Team Member	• AMDAL B • Certificate of Competency of SEIA Drafting Team Leader
4.	Nahyo, S.T., M.Si.	• Bachelor of Civil Engineering • Master of Environmental Engineering	Physical and Chemical Experts	• AMDAL A • AMDAL B • Certificate of Competency of SEIA Drafting Team Leader
5.	Romiyanto, S.P., M.Si.	• Bachelor of Agriculture • Master of Land Damage Disaster Mitigation	Plantation Expert	• AMDAL A • AMDAL B • GIS Certification from National Certification Body / Geomatics Professional Certification Agency
6.	Naveri, S.Hut.	Bachelor of Forestry	Biology Expert	• AMDAL A • SEIA Drafting Team Member Competency Certificate
7.	Riri Christina, S.Sos.	Bachelor of Social	Socio-culture Expert	
8.	Novian Supriany, S.E.	Bachelor of Economic	Economy Expert	• AMDAL A • AMDAL B
9.	Sutriswanto, SKM. M.Kes (Epid)	• Bachelor of Public Health • Master of Epidemiology	Public Health Expert	• AMDAL A • AMDAL B
10.	Taufik		Team Member	• AMDAL A • AMDAL B

Assessment Methods

SIA

The data needed in the preparation of the research include secondary data and primary data. This data differentiation is based on the process of collecting or obtaining data. Data obtained by adapting or referring to data that has been collected by other parties is referred to as secondary data. Data obtained through the direct collection process is referred to as primary data.

a. Secondary Data Collection

Secondary data is taken from various literature studies or literature by collecting and studying related documents. The materials used in this study include reports related to the study of social aspects (Environmental Impact Analysis Documents, RKL/RPL Documents, Sanggau Regency Documents in Figures, Noyan District Documents in Figures, Sekayam District in Figures, various company documents regarding: Corporate Social Responsibility (CSR), Standard Operational Procedure (SOP) for Environment, Occupational Health and Safety, map of plantation location, monograph of the study village, HCV/HCS and SIA documents that have been prepared by the company (if available) and others to identify various social components related to plantations contained in it and the question guide as well as the results of interviews with respondents. The study was conducted mainly to look at various

social issues that have the potential to arise now and in the future. So that an understanding of the social and environmental context of the identification area will be obtained. This activity is carried out at the identification stage. early before going to the field, during the field and at the analysis stage results.

b. Primary Data Collection

Primary data collection was carried out using field observations, in-depth interviews, questionnaires and Focus Group Discussions (FGD) on the basis of representation of socio-economic aspects, work areas and patterns of interaction with the company. Interviews and FGDs were conducted in villages around PT. MKS is to find out basic demographic and socio-economic data for the local community, various strategic issues related to the impacts (both positive and negative) of the company's operations, hopes and desires of the community, stakeholders in each village and other data that supports the process of preparing the SIA document. In addition, triangulation methods and social-learning cycles are also used to obtain accurate data and the validity can be justified. The following are some of the methods used to obtain data in the field:

1. Dialog; this method is used to identify the parties, explore the issues that become the impact, explore hopes, ideas and aspirations to get solutions to the issues that occur, are carried out through meetings both formal and non-formal and with specific topics (Focus Group Discussion/FGD).
2. Field observation; This method is used to directly understand the facts on the ground that are an indication of the occurrence of social issues and impacts.
3. In-depth interview; Interviews were conducted with key person interviews to find out more deeply a problem according to the area of expertise or authority of each key respondent in each village.
4. Triangulation; the above methods are carried out in an integrated manner to mutually verify the issues, opinions, and ideas that arise.
5. Social-Learning Cycle; Social Impact Assessment is not a one-time linear process, but a cyclical process that functions as social learning processes to respond to environmental changes that occur.

EIA

The data collection process was strongly associated with the type of data to be collected. In general, studies will be conducted based on primary data and secondary data. Primary data are obtained through observation, measurement and field interviews, and secondary data are obtained from the literature collected, either from the company, or directly from related institutions in the study of this area. The methods that were used to collect the data were adjusted with components that can be studied. The used data must be accurate and reliable so that it could be used to analyzed, measure and observe the environmental components which it predicted would be affected and components of action plan that would give significant impacts to the surroundings. The data were collected was as physical, chemical components (climate, air quality and hydrology, and soil), biological components (vegetation, animals, and water biota), socio-economic cultural components (demography/ population, social, economic, social and cultural), environmental health and public health components (environmental sanitation, public health level, level of public health services).

Methods of Significant Impact

Estimation Determination of the significant impact to the environment caused by the development activities of the plantation is only intended as an attempt to estimate the large and important environmental quality changes that can be caused by the plantation development activities of PT MKS. The method of significant impact estimation used is by differentiating the magnitude of impact and significance of impacts.

Estimation on the Magnitude of Impact

The magnitude of Impact is measured from the changes in the environmental quality. Formal and informal methods are used to estimate changes in environmental quality.

1. Formal Methods

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

2. Informal Methods

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

Determination of Important Impact Characteristics

Relation to the impact evaluation conducted by Important Impact scaling into two categories: important and less important. Characteristics Impact divided into two groups, negatives impact and positives impact. It will be regarded as negative if the changes/ impact estimated is get adverse towards the environmental, and it is positive if the changes/ impact estimated giving beneficial to the environment

Methods of Important Impact Evaluation

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

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

2.2. HCV-HCS Assessment

Dates of Activities

Integrated HCV-HCSA assessment activities in the PT. MKS is held for 11 (eleven) months, from October 2019 to August 2020, as presented in Table 6.

Table 6. Timeline for HCV-HCS Assessment Activities in the Permitted Area of PT. MKS

No	Activity	Time	Location
MAIN ASSESSMENT			
1.	EIA Study	2 Jan 2009	
2.	Social Impact Assessment	Oct 2019 – Feb 2020 (an conjunction with the HCV-HCSA study)	Noyan, Semongan, Malenggang, and Sungai Tekam villages
INTEGRATED HCV-HCSA ASSESSMENT			
I.	**Pre-Assessment**		
A	Information Exchange	21 – 25 October 2019	PT. Sonokeling Akreditas Nusantara office
B	Due Diligence	28 Oct – 1 Nov 2019	PT. Sonokeling Akreditas Nusantara office
II.	**Scoping Study**		
A	Set the Scope of the Assessment	4 – 8 Nov 2019	PT. Sonokeling Akreditas Nusantara office
B	Information Collection	11 – 15 Nov 2019	PT. Sonokeling Akreditas Nusantara office
C	Making Initial Land Cover Maps and Plot Analysis	18 – 22 Nov 2019	PT. Sonokeling Akreditas Nusantara office
D	Field Visit		

No	Activity	Time	Location
1.	Identification and consultation with stakeholders	28 Nov – 4 Dec 2019	Noyan sub District, Semaya sub District, Sanggau District Environmental Service, Sanggau District Plantation and Livestock Service, Housing, Human Settlements, Land and Spatial Planning and Sanggau District Office, Sanggau District Education and Culture Office.
2.	Visit a local sample	28 Nov – 4 Dec 2019	Noyan, Semongan, Malenggang, and Sungai Tekam villages
3.	Initial Verification of Land Cover Map with Reality on the Field	28 Nov – 4 Dec 2019	Secondary Forest (9 location), Shrub (38 location), Mix garden (62 location), and open land (8 location).
4.	Identification of biophysical and ecological features	28 Nov – 4 Dec 2019	Beluk, Bayan, Puruh, Kuyak/Noyan, Motang, Mayan, Tuba, Segumon, and Gontu/Saeh rivers; Secondary Forest, Shrub, Mix Rubber Garden, Open Land, Water Body and settlement
E	Preparation of Reports on Preliminary Examination Study Results	5 – 8 Dec 2019	PT. Sonokeling Akreditas Nusantara office
III.	**Preparation for a Full Assessment**		
A	Register to ALS		
B	Assessment Team Preparation	9 – 13 Dec 2019	PT. Sonokeling Akreditas Nusantara office
C	Preparing the Method	9 – 13 Dec 2019	PT. Sonokeling Akreditas Nusantara office
IV.	**Full Assessment**		
A	Field Work		
1.	Social field work		
a.	Participatory mapping	15 – 24 Dec 2019	Beluk, Bayan, Puruh, Kuyak/Noyan, Motang, Mayan, Tuba, Segumon, and Gontu/Saeh rivers; Field rice in the Noyan, Semongan,and Sei Tekam villages; Atok Pala Tujuh, Tembawang Serabu, Tembawang Guna, Tungkup, dan Lulung Bengris.
b.	Social study	15 – 24 Dec 2019	Noyan, Semongan, Malenggang, dan Sungai Tekam village offices; Atok Pala Tujuh, Tembawang Serabu, Tembawang Guna, Tungkup, and Lulung Bengris.
2.	Environmental study in the field		
a.	HCS forest inventory	15 – 24 Dec 2019	Hutan Kerapatan Tinggi, Sedang dan Rendah (HK) (53 plot), Hutan Regenerasi Muda (HRM) (50 plot), Belukar (B) (21 plot), Lahan Terbuka (LT) (14 plot), dan Perkebunan-Pertanian (AGRI) (26 plot).
b.	HCV identification efforts	15 – 24 Dec 2019	
	Vegetation in non-forest ecosystems	15 – 24 Dec 2019	15 observation transects (secondary forest (6 observation transects), shrubs (5 observation transects), mixed rubber plantations (3 observation transects), and oil palm plantations (1 observation transect).
	Wildlife study	15 – 24 Dec 2019	15 observation transects (secondary forest (6 observation transects), shrubs (5 observation transects), mixed rubber plantations (3 observation transects), and oil palm plantations (1 observation transect)) and 21 rivers.
3.	Biophysical Study	15 – 24 Dec 2019	Beluk, Bayan, Puruh, Kuyak/Noyan, Motang, Mayan, Tuba, Segumon, and Gontu/Saeh rivers; secondary forest land cover, shrubs, shrubs, mixed rubber plantations, oil palm plantations, dry land agriculture, open land, settlements, and water bodies.
B	Analysis and Interpretation		
1.	HCV Identification	25 Dec 2019 – 2 Feb 2020	PT. Sonokeling Akreditas Nusantara office
2.	Analysis of HCS forest plots	25 Dec 2019 – 2 Feb 2020	PT. Sonokeling Akreditas Nusantara office

No	Activity	Time	Location
3.	Local community land identification	25 Dec 2019 – 2 Feb 2020	PT. Sonokeling Akreditas Nusantara office
4.	Interpreting peat studies	25 Dec 2019 – 2 Feb 2020	PT. Sonokeling Akreditas Nusantara office
5.	Aligning several related data sets to develop a conservation map design	25 Dec 2019 – 2 Feb 2020	PT. Sonokeling Akreditas Nusantara office
6.	Drafting the draft management and monitoring recommendations	25 Dec 2019 – 2 Feb 2020	PT. Sonokeling Akreditas Nusantara office
C	Consultation with Stakeholders	13 – 14 Aug 2020	PT. Sonokeling Akreditas Nusantara office
D	Report Improvements	20 – 25 Aug 2020	PT. Sonokeling Akreditas Nusantara office
E	Reporting and Quality Control	-	PT. Sonokeling Akreditas Nusantara office

Assessors and Their Credentials

The Integrated HCV-HCSA Study was carried out by team of PT Sonokeling Akreditas Nusantara (PT. SAN) with a total of 9 team member. The composition of the assessment team is presented in Table 7 and Table 8.

Table 7. Team leaders and GIS experts

Name	Role	Expertise	Experience
Kresno D. Santosa	Lead Assessor (ALS15009KS)	Ecological Landscape, Socio-Economy, carbon stock, land suitability, peat surveys, soil, and water conservation	Country: Indonesia Languages: Indonesian and English
Kasumawijaya	GIS and remote sensing expert	Remote sensing, GIS, spatial analysis, carbon stock, land cover change	Country: Indonesia Languages: Indonesian and English

Table 8. Environmental and social experts in the study implementation team

Name	Role	Expertise
Rahman Fero Balfas, A.Md.	Environmental Specialist	Hydrology, Soil and Water Conservation
Dera Syafrudin, S.Hut	Biodiversity Specialist	Tropical Flora Conservation, HCV 1 to HCV 3 and Flora Inventory
Ahdi Muhtadin, S.Hut	GIS and Remote Sensing Specialist	GIS and Spatial Planning
Ainurrahman, A.Md.	Biodiversity Specialist	Wildlife Inventory
Yayan Suryani, SP	Social Expert	Social Forestry
Ahmad Sirojudin, S.Hut	Biodiversity Specialist	Tropical Flora Conservation, HCV 1 to HCV 3 and Flora Inventory
Ace Amirudin Mansur, S.Hut.	Biodiversity Specialist	Forest Inventory

Assessment Method

This study uses the following guidelines: (i) Common Guidance for the Identification of High Conservation Values (Brown et al., 2017) to identify HCV 1, HCV 2, HCV 4, HCS 5, and HCV 6; (ii) Guidelines for Identification of High Conservation Value Areas in Indonesia (HCV Revised Consortium Indonesia Toolkit, 2008) to identify HCV 3; (iii) Common Guidance for Management and Monitoring of High Conservation Values (Brown et al., 2018); (iv) HCV-HCSA Assessment Manual (HCVRN, 2017); (v) Guidance for Using the HCV-HCSA Assessment Report Template (HCVRN, 2018); (vi) HCV-HCSA Assessment Report Public Summary Template with Guidance (HCVRN, 2018); and (vii) The HCS Approach Toolkit v2.0 (Rosoman et al., 2017) to identify areas of HCS.

Pre-Assessment

At this pre-assessment stage, the study implementation team conveys information to the Company regarding the next stage of the study, which includes a scoping study and a full assessment stage including public consultation. In addition to expressing approval of the process of activities in the HCV-HCSA assessment, the Company also agreed to the ALS procedures and requirements, including the time and cost of the review. The company also understands the consequences of the results of the study, which include recommendations for managing and monitoring conservation areas, especially

conservation areas located in partnership lands (PSR). This pre-assessment stage concludes that the company is deemed eligible to proceed to the next stage in the implementation of the integrated HCV-HCSA assessment.

Scoping Study

Examination study in the permit area of PT. MKS includes 7 main activities, namely 1) Determining the scope of the study, (2) Information gathering, (3) Preparation of initial land cover maps and plot analysis, (4) Field visits, (5) Visiting community samples, (6) Identification of stakeholders and initial consultation, and (7) Preparation of a report on the results of the initial examination study. The summary of the inspection study activities in the permit area of PT. MKS

At this stage, several parties have been consulted to gather important issues related to the substance of the study. The selection of the parties as resource persons was motivated by the relevance of the activities and the main concerns of these parties to the study area, as well as the potential presence of HCV and HCSA elements.

Method for Environmental HCVs (full assessment)

Various relevant information was collected through literature searches, specifically the literature on the Sumatran elephant and Sumatran tiger received more attention due to the status of the two species. Then to assess HCVs 1-3, thematic maps on Sumatra's biodiversity and current important species information in global and national contexts, such as those published by IUCN, WWF, BirdLife International, Forina, CITES, UNESCO, Ramsar Forum, Intact Forest were compiled. Landscape (IFL), and the Ministry of Environment and Forestry (KLHK). In addition, secondary data and information were also obtained from experts through initial consultations. An analysis of land cover is required in the assessment of HCV 1 - 4. The main data used for land cover classification in the PT MKS permit area is the history of land cover and current land cover in 2019.

The guidelines used in the HCV assessment are (1) Common Guidance for the Identification of High Conservation Values (HCV Resource Network, 2017a); (2) Common Guidance for the Management and Monitoring of High Conservation Values (HCV Resource Network, 2018a); (3) HCV Assessment Manual (HCV Resource Network, 2019a); (4) Guidance for using The HCV Assessment Report Template (HCV Resource Network, 2019b); and (5) HCV assessment Public Summary template with Guidance (HCV Resource Network, 2019c); while specifically for ecosystem type analysis (HCV 3) using a precautionary approach referring to the Guidelines for High Economic Value Areas in Indonesia (Consortium for Revision of HCV Toolkit Indonesia, 2008). The method applied to the environmental aspect study section is collecting secondary data and fieldwork to collect primary data.

Land cover analysis is required in the HCV 1 – 3 and HCS assessments. The main data used for land cover classification in the PT. MKS is the history of land cover and current land cover in 2019. The satellite imagery data (satellite Imagery) used is the Sentinel-2A Image in 2019, then analyzed and verified with satellite images in previous years, then land cover classification is carried out by digitize on the screen at a scale of 1:50.000. Land cover classification in the early stages of image interpretation activities uses the classification of Gunarso et al. (2013); National Standardization Agency (2010).

The sample plot design used in forest inventory activities in the PT. MKS is two concentric circles from a central point in the form of a large plot with an area of 500 m2 or 0,05 ha and a sub-plot with an area of 100 m2 or 0,01 ha. In large plots, the data measured are all trees >15 cm in diameter; while in the sub-plot, the data measured were all trees with a diameter of 5 – 14,9 cm (Figure 6).

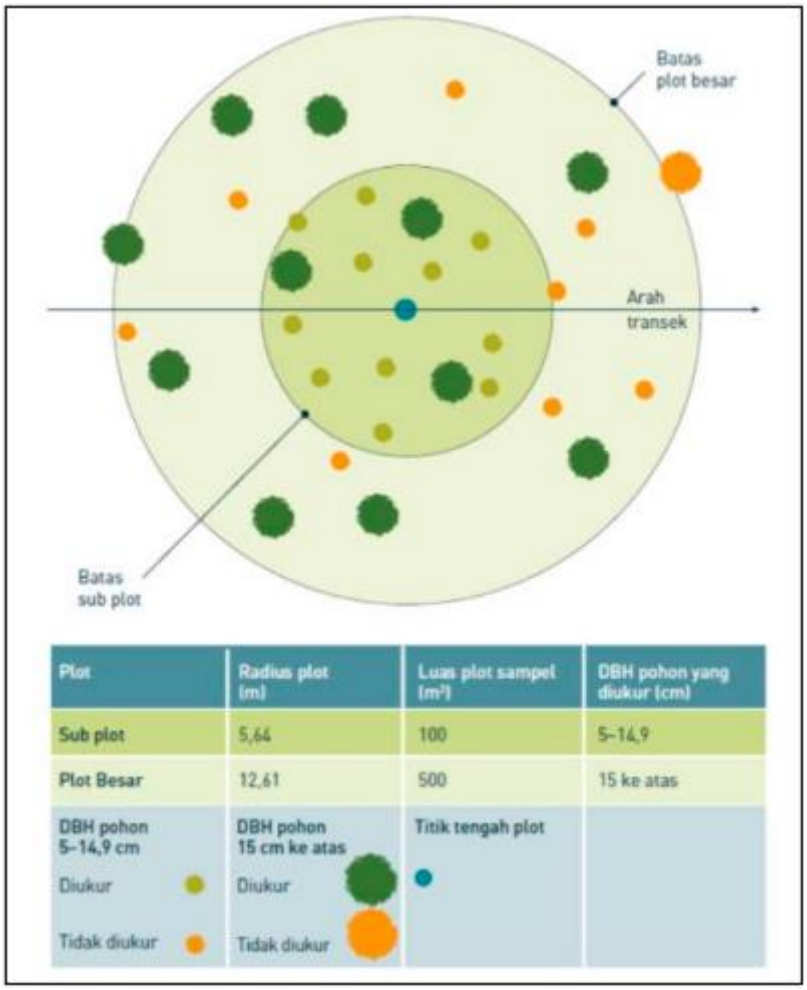


Figure 6. HCS Forest Inventory Sample Design

The HCS forest inventory activity was carried out in the HGU PT. MKS covers an area of 9.688,91 ha (GIS data 9.686,30 Ha). The number of sample plots measured for carbon stock analysis was 164 sample plots spread over 5 (five) land cover classes, namely 53 sample plots in Density Forest (HK), 50 sample plots in Young Regeneration Forest (HRM), 21 sample plots in Scrub (B), 14 sample plots in open land (LT), and 26 sample plots in Plantation-Agriculture (AGRI).

Based on Toolkit Module 4 (Forest and Vegetation Stratification) 2018, the general guideline is that at least 50 samples are collected for each land cover class (Congalton and Green 1999). For larger areas (more than 400,000 ha) it is recommended that at least 75 samples be collected for each land cover class (Congalton and Green 1999). The number of sample plots for HK is 53 plots and HRM is 50 plots, so the number of plots is in accordance with the general guidelines that apply.

Inventory measurements were only carried out on large plant species, which had a diameter at breast (dbh) of more than 5 cm. In the large plot (500 m2), the data measured were all trees with a diameter of > 15 cm, while in the sub-plot (100 m2), the data measured were all trees with a diameter of 5 – 14,9 cm. The trees that have been identified and their trunk diameters measured are then recorded on a tally sheet and marked with flagging tape.

The methodology used in carbon calculation is non destructive sampling method or carbon analysis method without harvesting. In practice, carbon measurement is carried out by measuring the diameter of the tree trunk (diameter of breast high/DBH). After the DBH data is obtained along with the amount of vegetation in each plot, the next step is to calculate the stem value per hectare. The equation used is as follows:

Stems per hectare = (number of trees in a plot)/(plot size in hectares).

All DBH information from the measured vegetation is then used to calculate the carbon stock value for each vegetation. Furthermore, the carbon stock value of each vegetation is added up in one plot. The approach used to calculate the carbon stock value of each vegetation uses an allometric equation to estimate its biomass. Calculation of biomass in the assessment of Carbon stock in the permit area of PT MKS uses the Ketterings et al (2001) equation, namely:

$$TDW = 0{,}11 \times \rho \times (DBH)^{2.62}$$

Note:
TDW = biomassa (kg); ρ = wood specific weight (gr/cm3), DBH = diameter breast hight (cm)

The consideration in using this formula is its suitability for use in secondary forest types in the tropics. Several studies have compared this formula with other general allometric equations. The results of the ICRAFT study stated that the Katterings, Chave, Brown and Basuki formulas provided a carbon storage value that was not significantly different up to a diameter of 100 cm. Some things to consider when using allometric equations are the specific gravity of the wood. The value of the specific gravity of wood in this study was obtained from the wood hardness database issued by the World Agroforestry Center (WAC) at http://db.worldagroforestry.org/wd.

After knowing the biomass value, then the carbon stock value is calculated in tons C/ha. The general equation used in calculating the carbon stock of aboveground biomass is:

Carbon Mass (ton) = Biomass x (Carbon Conversion Factor)

The carbon conversion factor estimates the carbon component of vegetation biomass. This factor can be generated for certain forest types or using the IPCC standard value of 0.47 (IPCC, 2006)[1] (IPCC. 2006. Guidelines for National Greenhouse Gas Inventories. UNFCCC.).

Calculation of total tree carbon stock (tonnes C / ha) in each plot uses the following equation:

Total Carbon (ton C / ha) = ∑ ([Tree Carbon]) / [Plot size in hectares]

Flora Survey

The method used in the observation of flora/plants is the encounter method which is carried out by checking and recording the types of flora found along the observation transect, where each transect is 200-1,000 meters long with a width of 25 m (left of the transect) and 25 meters wide (left of the transect). m (right of the transect). Determination of plant observation path length refers to Bismark (2011) and Kartono (2008). The parameters observed were the presence of flora species in the sample unit and the quality of their habitat. Flora status was obtained from the IUCN (2019) and CITES (2019) websites as well as from Indonesian government policy documents (Ministry of Environment and Forestry Regulation Number P.106 of 2018). To determine the endemic status or not, refer to alamendah.org (2011).

Fauna Survey

The method used in observing fauna/wildlife is the encounter method by means of a checklist and recording the types of fauna found along the observation transect, where each transect is 200-1,000 meters long and 100 m wide. Determination of plant observation path length refers to Bismark (2011) and Kartono (2008). For amphibian observations focused on river areas.

Observations of wildlife (mammals, birds, and herpetofauna) were carried out using a rapid assessment technique, combining 4 methods, namely (1) Interviews with the community, especially hunters (5 villages) and company staff; (2) Checklist list of wildlife species (mammals, birds, and herpetofauna, (3) Encounters either directly (visually) or indirectly (mammals: traces, sounds, scratch marks, and droppings; birds: sounds, fallen body parts, and feces, and herpetofauna: sound), and (4)

Observation of the quality of wildlife habitat (mammals, birds, and herpetofauna) is carried out in collaboration with the flora team. Recording of wildlife species (mammals, birds and herpetofauna) is carried out at each observation location, where at each observation point of 200-1.000 meters. The determination of the length of the path for observing wildlife refers to Bismark (2011) and Kartono (2008). Observations of mammals, birds and reptiles are carried out at 07.30 – 17.00 and at night, while for amphibians it is carried out at night day.

Interviews with the community, especially hunters and company staff, to determine the presence of wildlife species at each observation location were carried out by asking for the name of the wildlife species found and when they were found, with reference to the pictures of wildlife contained in the field guide book. The field guidebooks used as material for interviews with the community, especially hunters and company staff, were sourced from: Mammals (Payne, et al. (2000); Agustinus et al. (1998)); Birds (MacKinnon et al. (1992); MacKinnon et al. (2000); Sukmantoro et al. (2007); Sukmantoro (2013); and Herpetofauna (Cox et al. (1998); Kusrini et al. (2017); Mistar et al. (2017)). The fauna status was obtained from the IUCN (2019) and CITES (2019) websites as well as from Indonesian government policy documents (Ministry of Environment and Forestry Regulation Number P.106 of 2018).

Aquatic Survey

Fish data collection was carried out in several rivers using a rapid assessment technique, combining 3 methods, namely (1) Interviews with the community, especially anglers and company staff; (2) Checklist of fish species list obtained from various sources, (3) Direct encounter (visual), and (4) Observation of fish habitat quality is carried out in collaboration with the environmental services team. Interviews with communities to ask about the types of fish found and the quality of their habitats were conducted in 5 villages. Fish observations were carried out in several rivers at 07.30 – 17.00, but night observations were also carried out. The field guidebooks used as material for interviews with the community, especially hunters and company staff, were sourced from Sukmono and Margaretha (2017).

The status of the fish was obtained from the IUCN (2019) and CITES (2019) websites as well as from the Indonesian government's policy documents (Ministry of Environment and Forestry Regulation No. P.106 of 2018). Sources to determine whether fish species are endemic or not are Sukmono and Margareta (2017).

High Conservation Value 2

The method used to identify HCV 2 areas is a combination of spatial analysis with qualitative observations. Spatial analysis using GIS and remote sensing techniques is carried out to determine the position of the study area against the IFL area or conservation area or natural ecosystem area within the study area and in the AOI. Observations were made on several indicators that focused on: i) the existence of natural ecosystems, ii) verification of natural ecosystems in the context of a landscape (AOI), and iii) verification of the connectivity of potential areas as links for two or more large landscapes. Where there is a smaller area of natural ecosystem that provides key functions for the landscape such as connectivity and buffering, then the area is considered an HCV 2 area.

High Conservation Value 3

In conducting the HCV 3 assessment, mapping of the ecosystem in a bio-physiographical unit where the PT MKS permit area is located uses a proxy for the RePProT classification in Kalimantan. The ecosystem map in one bio-physiographic unit is then overlaid with the 2018 land cover map and further analysis is carried out to determine whether the ecosystem is rare or threatened.

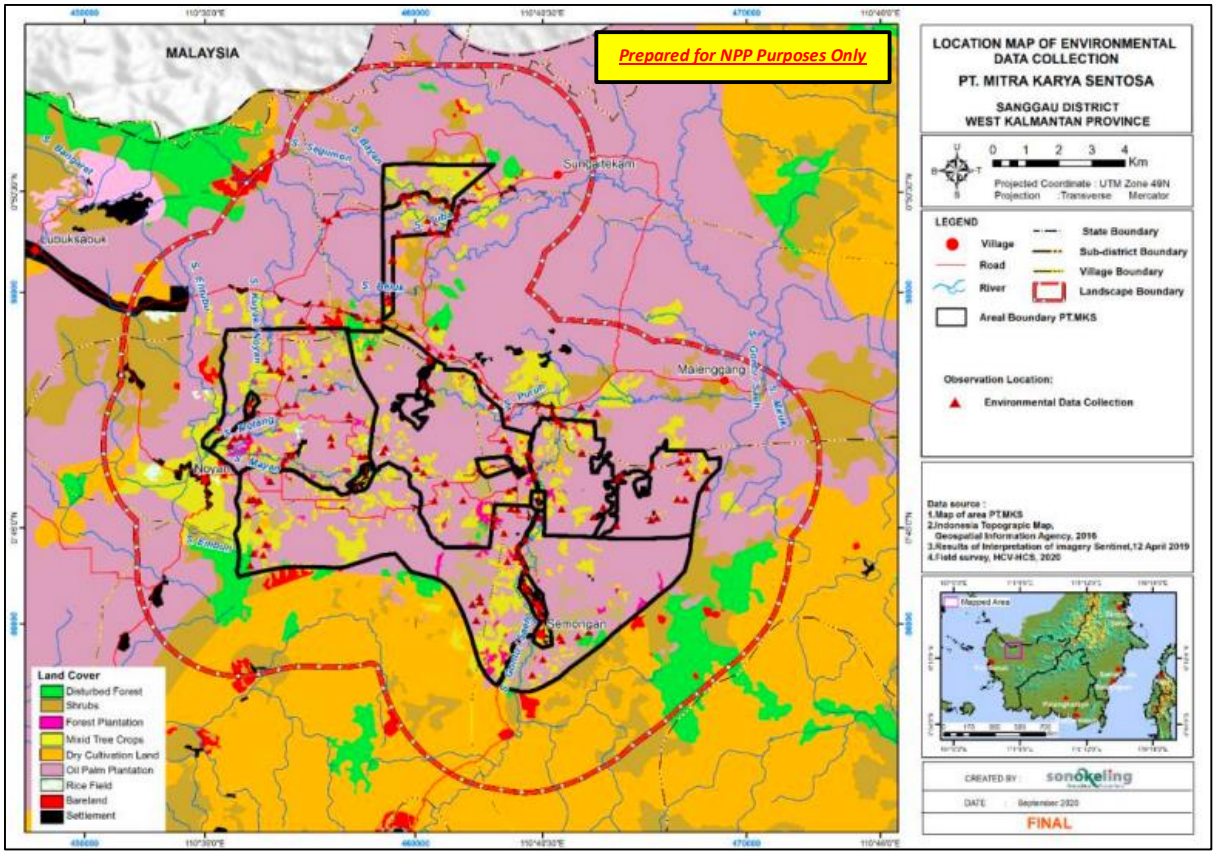


Figure 7. Map of Location Environmental Data Collection in the Permit Area PT MKS

Social HCV Assessment Method (full assessment)

The method of collecting data and secondary information is carried out through literature studies obtained from the PT MKS, documents from related agencies/stakeholders, and various websites on the internet. The literature review / references and guidelines used as a reference in carrying out the HCV - HCS assessment are as follows:

a) HCV-HCSA Assessment Guidelines Used during the Integrated HCV-HCSA Assessment. Document ID: ALS_02_N Date November 08, 2017.
b) Common Guidance for the Identification of High Conservation Values: A good practice guide for identifying HCVs across different ecosystems and production systems. 2013.
c) Free, Prior and Informed Consent Guide for RSPO Members, RSPO Human Rights Working Group 2015. Endorsed by the RSPO Board of Governors meeting on 20 November 2015 in Kuala Lumpur.
d) The HCS Approach Toolkit Module 2 version 2.0 May 2017 on social requirements.
e) United Nations Declaration on the Rights of Indigenous Peoples, with regard to FPIC (art. 32), Lands and Territories (art. 20 and article 26), Immovability and the right to restitution and correction (art. 10, art. 28), Representatives (art. 18, art. 19), Agreement based on custom (article 3, article 4, article 5, article 33, and article 34).
f) International Law Conventions, which include:
   - International Convention on Civil and Political Rights.
   - International Convention on Economic, Social and Cultural Rights.
   - Convention on the Elimination of All Forms of Ethnic Discrimination.
   - ILO Convention No. 169 concerning Indigenous and Tribal Peoples.
   - Convention on Biological Diversity.
g) Data and information from PT MKS management and other information data

Table 9. Data and information source for social HCV assessment

No.	Main Data and Information Sources
A.	**Document and Study**
1.	ANDAL Study (PT. Mitra Karya Sentosa, 2009)
2.	Social Impact Assessment (PT. Mitra Karya Sentosa, 2013)
3.	Determination of agricultural land area (Anonymous, 1960)
4.	Sanggau Regency in 2019 Figures
5.	Noyan District in 2019's Figures
6.	Sekayam District in Figures for 2019
7.	HCV Assessment (PT. Mitra Karya Sentosa, 2010)
8.	HCS Assessment (PT. Mitra Karya Sentosa, 2017)
9.	Land Tenurial Study PT. Mitra Karya Sentosa, Tahun 2019
10.	UNESCO World Heritage sites (www.whc.unesco.org)
B.	**Information**
1.	Citra Sentinel 2A Acquires Coverage April 12, 2019
2.	Hotspot data for 2016-2019 (www.firms.modaps.eosdis.nasa.gov)
3.	Rainfall (Flood Control and Coastal Observation Project, Director General of Natural
4.	Resources, West Kalimantan, 2008-2010; BMKG Climatology Station Supadio Pontianak, 2011, 2012, 2013, 2014, 2015, 2016, 2017)
C.	**Geospatial Data**
1.	Map of PT. MKS
2.	Map of West Kalimantan Watershed (DAS) Province (BP DAS West Kalimantan, 2019).
3.	Land System Map : RePProt (1987)
4.	River network map (Geospatial Information Agency, 2019)
5.	Land Map (RePProt, 1987)
6.	Digital Elevation Model 30 meters, Shuttle Radar Topography Mission (USGS, 2017)
7.	Forest Area Status Map of West Kalimantan Province (KLHK, 2016)
8.	Map of the Ethnic Distribution of the Island of Borneo (http://www.ethnologue.com/) (2016).

The method used in the assessment is a rapid assessment through a qualitative approach to selected informants. This is done concerning the nature of the study and the short time of the study, so information about HCVs is specific about a specific subject and is only known by certain people. The social assessment method was chosen so that the study was participatory, represented social groups, and followed the FPIC principles as suggested in the Guidelines. At the pre-assessment stage, a preliminary inspection study, and a complete assessment, in-depth interviews with the company management at the headquarters and the AOI location and to local resource persons were carried out using interview guides. A literature review is carried out for libraries and maps relevant to AOI from libraries or sources on the internet and company documents.

Determination of resource persons at all stages of the assessment was carried out using a purposive sampling method which was selected based on key stakeholders or social groups and who represented administrative areas in the AOI. In this case, it represents the interests of social groups in the studied village. Furthermore, from these sources, snowball sampling was carried out which was equipped with a triangulation method to reduce bias. The participatory mapping method was used to obtain spatial information from company management and local resource persons. The focus group discussion method was also used during the field study. Each information is also checked in the field through direct observation or ground truthing. The criteria for resource persons are people who have information about the village area, village land use, history of land use in the village, local community culture, areas of important value to the community and the existence of forest areas. So the speakers were the Village Head, Village Secretary, Village Consultative Body/BPD), traditional leaders, community leaders, religious leaders, youth representatives, women representatives, representatives of land authorities, representatives of members of marginalized communities, and other community representatives. By including every representative of these stakeholders, it is hoped that every representative of the residents affected by the company's operations can be represented.

In the Common Guide for HCVRN HCV Identification, concerning the determination of social HCVs, the precautionary approach is used. For example, if there is a threat of severe or irreversible damage to the environment or a threat to human well-being, it is necessary to take specific and effective steps to prevent such damage and risk. This is still done even though scientific information is incomplete or incomplete, and the vulnerability and sensitivity of related values are uncertain. In the context of land conversion for plantations, the threat is likely to be more severe than the development scenario limited to habitat disturbance/ degradation. When the risk of habitat loss or displacement of local community resource use is higher, the use of the *precautionary approach becomes even more critical to determining social HCVs.*

Table 10. Social Methods and Stakeholder Engagement in Collecting Socio-Economic and Cultural Data

Stakeholders	Number (person)	Method
Plantation and Livestock Service Office of Sanggau Regency	1	Interview and Discussion
Sanggau District Environmental Service	1	Interview and Discussion
Sanggau District Education and Culture Office	1	Interview and Discussion
Department of Human Settlements and Spatial Planning of Sanggau Regency	1	Interview and Discussion
Noyan Sub District Office	1	Interview and Discussion
Sekayam Sub District Office	1	Interview and Discussion
Management of the "Medep Bauh" Garden Cooperative PT. MKS	1	Interview and Discussion
Chairman of the Dayak Customary Council of Noyan District	1	Interview and Discussion
Village head	4	FGD and Interview, Participatory Mapping
Village secretary	2	FGD and Interview, Participatory Mapping
BPD/LPM (chairman and members)	3	FGD and Interview, Participatory Mapping
Village apparatus (section head, head of affairs, babinsa, and linmas)	2	FGD and Interview, Participatory Mapping
Village chief	2	FGD and Interview, Participatory Mapping
Traditional leader	5	FGD and Interview, Participatory Mapping
Religious leaders	2	FGD and Interview, Participatory Mapping
Public figure	3	FGD and Interview, Participatory Mapping
Plasma Land Owner	4	FGD and Interview, Participatory Mapping
Female Character	3	FGD and Interview, Participatory Mapping
PKK	1	FGD and Interview, Participatory Mapping
Posyandu cadres	1	FGD and Interview, Participatory Mapping
Hobby Fishing	3	FGD and Interview, Participatory Mapping
Hunting Hobby	1	FGD and Interview, Participatory Mapping
Community representatives (farmers, farm laborers, village shamans, housewives, fishermen, traders, entrepreneurs, breeders)	4	FGD and Interview, Participatory Mapping
Youth leaders / youth leaders	3	FGD and Interview, Participatory Mapping
Company	5	FGD and Interview, Participatory Mapping
Total	56	

2.3. Soil and Thopography Assessment

Activities that will be carried out in this semi-detailed land survey include the following:

a. Secondary data collection includes maps supporting climate data, agricultural socio-economic data. Climate data was taken from the nearest Climatology station, while secondary data on agricultural economics was taken from the local BPS and information from villages around the prospective plantation area.
b. Preparation of preparation/interpretation maps for working maps set from base maps and satellite imagery.

c. Temporary land unit delineation for work maps is based on a landform approach or land unit mapping with a delineation path carried out by overlapping Landsat images, topographic maps, geological maps, land maps and land use maps.
d. Field checks and improvements to the delineation of soil map units, then continue field/soil observations on:
   - ✓ Soil observation points (drilling, minipit and soil profile) that have been determined to represent each land unit or according to land variability are carried out with a certain intensity. Drilling is carried out to a depth of 0 - 100 cm or up to the parent rock layer. During the drilling, the physiographic and physical and chemical properties of the soil were observed.
   - ✓ From these points, a soil morphology observation point (profile) is determined which represents the soil map unit. Soil profiles are made at observation points which are considered representative of each soil unit by excavating soil measuring 1m x 1m x 1.5 m. Observation of the soil profile was carried out based on the USDA Key Soil Taxonomy standard in 2014. After observing the morphological characteristics of the profile, then taking soil samples per layer to analyze the physical and chemical properties of the soil in determining soil classification. The intensity of soil sampling is adjusted to the soil map unit and soil samples are taken at a depth of 0-20 cm; 20-40 cm ; 40-60 cm ; 60-80 cm ; 80-100 cm.
e. Data processing results from the field. The determination of soil classification followed the Soil Taxonomy system (USDA 2014) which was matched with the PPT classification (1983). Analysis of land suitability evaluation refers to the FAO method (1976) which is adapted to the land evaluation procedure of the Center for Soil and Agroclimate Research (2003). The results of data processing are contained in report texts and digital maps (GIS).

The scope of the semi-detail level ground survey work includes:

- Observing and drilling soil as deep as 100 cm
- Making a cross section/profile of the soil
- Soil samples were taken as much as two layers of top soil (0-20 cm) and soil at the bottom (20-40 cm)
- Land suitability assessment and its limiting factors.

2.4. Carbon Stock and Green House Gas (GHG) Assessments

Dates of Activities

Carbon Stock and GHG Assessment in the palm oil plantation area of PT. MKS is held in December 2019 – August 2020

Assessors and Their Credentials

Carbon Stock and GHG Assessment in the HGU area of PT. Mitra Karya Sentosa (PT. MKS) is carried out by PT. Sonokeling Akreditas Nusantara (PT. SAN).

Table 11. Assessor CSA & GHG Assessment

Name	Qualification	Role
Ir. Kresno Dwi Santosa, MSi	Registered HCS Approach Practitioners	Team leader
Ir. Siswoyo, MSi	Registered HCS Approach Practitioners / Carbon Specialist	Team member
Rahman Fero Balfas, A.Md.	Biodiversity Specialist	Team member
Ainurrahman, A.Md	Biodiversity Specialist	Team member
Ahdi Muhtadin, S.Hut	GIS Specialist	Team member

Assessment Methods

The carbon stock and GHG assessment activities in the PT MKS Oil Palm Area follow the RSPO GHG assessment procedure guidelines for new plantings. The RSPO GHG assessment procedure for new plantings has four key stages namely (1) Carbon Stock Assessment, (2) GHG Emissions Assessment for

new plantings, (3) GHG Emissions Management and Mitigation Plan and (4) GHG Assessment Reporting for New Plantings.

The carbon stock assessment methodology has a step-by-step process consisting of two key steps. The first step is the preparation of land cover maps from satellite imagery and the second step is the estimation of the existing carbon stock in the new development area. Carbon stock estimation using these two key steps can then be used to estimate RSPO GHG emissions resulting from land use change for new development areas.

The required carbon stock estimate must include carbon stored in: (1) Above-ground biomass, (2) Below-ground biomass (roots) and (3) Peat soil – if any. The total amount of carbon stock at the assessment site is the sum of the carbon stock in the estimated above and below ground biomass with the estimated peat soil carbon stock.

Assessment of GHG emissions from planned new plantings in oil palm plantation areas under the RSPO GHG procedure using the GHG Calculator for new developments published by the RSPO (RSPO-PRO-T04-003 V2.0 ENG (RSPO New Development GHG Calculator)).

2.5. Land Use Change Analysis (LUCA)

Dates of Activities

The Land Use Change Analysis (LUCA) was conducted on January 2020. The LUC analysis was covered proposed new development HGU area of PT MKS. The analysis period used included: a) between November 2005 - November 2007, b) between November 2007 - December 2009, c) between January 2010 - May 2014 d) after May 2014, and d) after May 2014.

Assessment Methods

LUCA study in the HGU area of PT. Mitra Karya Sentosa (PT. MKS) is carried out by PT. Sonokeling Akreditas Nusantara (PT. SAN).

Name of Company : PT. Sonokeling Akreditas Nusantara
Address : Komplek Sari Inten N: 44, Ciomas, Bogor, Jawa Barat, 16610
Phone : (0251)-7521685
E-mail : sonokeling.san@gmail.com
Person responsible : Ir. Kresno Dwi Santosa, M.Si
Position : President Director

LUCA

LUCA is conducted following RSPO Guidance for Land Use Change Analysis (Revised version March 2017) which includes relevant cut-off dates to identify land clearence prior to HCV assessment and the NPP completion. LUCA for PT MKS HGU concession has four cut-off dates. In addition, one cut-off (27 October 2021) has been added in the analysis for describing the current land cover (validity <1 year).

Table 12. Date of satellite image acquisition

Period	Date of Acquisition	Cloud Cover (%)
Before November 1, 2005 (baseline)	15-OCT-05	< 25%
November 1, 2005 – November 31, 2007	02-OCT-06	< 25%
December 1, 2007 – December 31, 2009	27-NOV-09	< 20%
January 1, 2010 – May 9, 2014	19-SEP-13	< 5%
After HCV areas re-identified & ground truthing	12-APR-19	< 20%
After becoming RSPO member (if relevant)	-	-
After the management unit acquired (if relevant)	-	-
Latest satellite image used	27-OCT-21	< 20%

The classification of land cover classes into the vegetation coefficient category follows the RSPO guidelines, which in principle consist of 4 categories, including:

- Coefficient 1.0, for primary forest land cover
- Coefficient 0.7, for secondary forest land cover
- Coefficient 0.4, for mixed or agroforestry land cover
- Coefficient 0.0, for non-forest cover such as rubber, oil palm, rice fields, shrubs and grasslands.

Social Liability

Social liability assessment applies Guidance on Identifying Social Liability for the Loss of HCVs 4, 5 and 6 (RSPO Biodiversity & High Conservation Values Working Group [BHCVWG], 2016). Data is collected combining the following methods: (1) Desktop study, (2) Participatory mapping, (3) In-depth interview, (4) Field observation.

2.6. FPIC Process

Dates of Activities

The Free Prior and Informed Consent (FPIC) conducted from July 4 until July 25, 2019. Meanwhile, the location for the FPIC assessment is carried out in the oil palm plantation area of PT. Mitra Karya Sentosa (PT. MKS) which includes 4 villages spread over 2 sub-districts in Sanggau Regency.

Assessors and Their Credentials

FPIC assessment in the HGU area of PT. Mitra Karya Sentosa (PT. MKS) is carried out by internal Sustainability Departement First Resources group.

Table 13. FPIC assessors and their credentials

No.	Name	Role	Specialization
1.	Panji Mulya	Team Leader	Agriculture : Community social studies and technical facilitation of FPIC ; Participatory Mapping ; PRA/RRA studies; Community Engagement ; SEIA
2.	Rudi Riana	Field Coordinator	Forestry, Forest Inventory ; Community social studies and technical facilitation of Participatory Mapping ; SEIA
3.	Sholehudin Soleh	Team Member	Forestry, Biodiversity, HCV Study, HCS Study, forest inventory ; SEIA
4.	Romi Prasetyo	Team member	Forestry ; HCV studies ; HCS Study; GIS ; Participatory Mapping,
5.	Cahya Wiratama	Team Member	Forestry ; Conservation; HCS Studies, SEIA
6.	Danu Subrata	Team Member	Forestry ; Conservation; HCS Studies, SEIA

Assessment Methods

The methods used in the FPIC study consist of:

1) Secondary Data Collection by collecting the required documents (documentation) taken from the villages around the study area and the landscape area, village profiles, Village Medium-Term Development Plans (RPJMDes), Districts or Districts in Figures based on statistical data and documents or reports from the management unit (UM).

2) Primary Data Collection, by:
   - Structured interviews and in-depth interviews with community members. The selection of community members who were interviewed used a purposive sampling method in which the community members were considered to know information and represent various interest groups as informants (village heads, PJ Kades, BPD, RT heads, Mantir Adat, land owners, and representatives of other community leaders).
   - Focused discussions with community groups (Focus Group Discussion) and (Rapid Rural Appraisal). The FGD and RRA participants consisted of village officials (village heads and village staff), the Village Secretary, BPD, RT heads, Linmas, traditional leaders, youth leaders, women leaders, land owners, village residents and representatives of other community leaders.

- Observation of physical environmental conditions, social environment, social relations, matching the initial land cover map with the reality on the ground, local community habits such as land use patterns and Natural Resources or Forest Resources.

3) Triangulation of data, integrated methods to verify each other on emerging issues, opinions, and ideas such as the potential for the emergence of new norms and rules regarding land use, natural resource management, and natural resource management prevailing in local communities.

The FPIC assessment is carried out in 4 stages, including:

A. Preparation Phase is carried out through a desk study. Desk study activities are intended to collect basic information and due diligence.

a) Basic information data such as digging up secondary data information in the form of:
   - Studies and documents in the form of: basic social studies, SIA/SEIA reports, RPJMDes, Districts in Figures, Districts in Figures, GRTT data, and so on.
   - Land tenure status (initial information on who controls/owns/uses the land),
   - Information in the form of: location of communities in or around the Area of Interest (AOI), stakeholder mapping, demography, ethnography, land tenure data, language background, cultural background, ethno-botanical studies, socio-economic status, socio-economic status culture, and village development needs.

b) Rapid due diligence, conducting rapid due diligence to understand the FPIC process is carried out with full disclosure of the company's proposed concession areas by communities and potentially affected stakeholders, and processes for future negotiations and approvals, and proposed conservation plans with designated community representatives. through a fair process.

B. Field Activities Phase, including activities;

1) Opening Meeting, this activity is intended to convey the objectives of FPIC activities, the scope of activities, arrange a field work team, and agree on a schedule of activities.
2) Field visits, to collect data through the FPIC process, namely;
   - Stage 1 : Identify interested parties. At this stage it is necessary to map out stakeholders, who are the parties involved and relevant to the study, as well as representatives from these institutions.
   - Stage 2 : Preparation of communication and interviews with identified parties
   - Stage 3 : Mapping community rights, related to the use of natural resources/forests, important lands to be protected, historic sites, ancestral heritage, and other important areas that will be affected by the company's development.
   - Stage 4 : Inform the relevant indigenous peoples and stakeholders about the information in stage 3.
   - Stage 5 : The process of discussion by the community and let them determine the result for themselves, whether they agree to carry out the development of the company or not.
   - Stage 6 : Summarizing all the results from stage 1 – stage 5, verifying consent from the community, reconfirming the agreed results
3) Closing Meeting, aims to convey provisional results in the form of brief information on social portraits, social issues and social conflicts so that the company management gets the main substance from the temporary identification results and can follow up on matters important or urgent to do, do not have to wait until the FPIC result report is finished.

C. Analysis and Interpretation Phase, carried out several activities which include identification of local community lands/ulayat lands, and current social issues or conflicts as well as the drafting of draft recommendations for management and monitoring of conservation areas with the community.

D. Reporting Phase, the report writing stage, consists of writing draft reports. The report is prepared in an accountable format and systematic, but also coherent and simple, accompanied by a visual presentation, so that it is easy to read and understand by the company's management unit. The output of this stage is the Draft Report.

3. SUMMARY OF FINDINGS

3.1. Social and Environmental Impact Assessment (SEIA)

See Table 14. For summary of link between the affected components/parameters, along with the impact sources.

Table 14. Potential impact by the impacted component

NO	ACTIVITY	POTENTIAL IMPACT
I	**PRE-CONSTRUCTION PHASE**	
1.	Socialization	• The emergence of public attitudes and perceptions (positive/negative) • Conflict between the community and the company
II	**CONSTRUCTION PHASE**	
1.	Construction Workforce Recruitment	• Increase job opportunities • Increase community income • Conflict between the community and the company • Changes in community behavior patterns (positive/negative) • The emergence of public attitudes and perceptions (positive/negative)
2.	Mobilization of Equipment and Materials	• Decreased ambient air quality • Noise enhancement
3.	Land Clearing and Maturation	• Decreasing air quality • Noise enhancement • Increased rate of erosion and sedimentation • Decreased surface water quality • Decreased diversity of flora • Decreased diversity of fauna species • Decreased diversity of species and the number of aquatic biota (plankton, benthos and nekton)
4.	Construction of Palm Oil Mill and Supporting Facilities	• Decreased air quality • Noise enhancement
III	**OPERATION PHASE**	
1.	Construction Workforce Recruitment	• Increase job opportunities • Increase community income • Conflict between the community and the company • Changes in community behavior patterns (positive/negative) • The emergence of public attitudes and perceptions (positive/negative)
2.	Palm Oil Mill Operations and Waste Management	• Decreasing air quality • Noise enhancement • Decline in surface water quality • Decrease in the diversity of species and the number of aquatic biota (plankton, benthos and nekton) • Changes in disease pattern
3.	Product Transportation (CPO and PKO)	• Decreased air quality • Noise enhancement • Changes in disease pattern
IV	**POST OPERATION PHASE**	
1.	Asset Handling	• Conflict between the community and the company
2.	Work Termination	• Decrease community income • Conflict between the community and the company

Commitment of PT. MKS to adopt and internalize the principles of sustainable oil palm plantation development with concrete steps so that it can meet the criteria standardized by RSPO, ISPO and other sustainable certifications that require oil palm plantation companies to conduct a Social Impact Assessment (SIA) or Social Impact Study (SIS) both positive and negative impacts.

Strategic issues that occur around the concession permit area are: There is an assumption from the community that the pollution that occurs in rivers used by residents is due to the company's operations (due to fertilization and spraying activities) and PKS which have recently been carried out even though the company has officially periodically testing environmental parameters on rivers around their operational areas, there are still problems related to environmental permits which are currently still in the process of being resolved by the Regency Team, potential damage to road access to Pelaman Raja hamlet in Semongan village, for other villages, feel that transportation routes are getting better due to the operation of the company, more and more productive agricultural land is getting narrower, Issues due to the delivery time for plasma production which is delayed from the original plan Plasma pattern is 75:25), Expectations of increased bailout funds for plasma members, Employment issues, social concerns company to society areas that need to be improved, Shifting community hunting areas, Overlapping land ownership, The existence of several lands that are still in the process of making a letter of intent (a cooperation agreement between the land owner and the company), The existence of several gardens, rice fields and fields within the company's HGU area, The emergence of doubts community towards plasma cooperative managers, Rubber prices have fallen, limited market access and land prices have increased.

Socio-Economic Impacts on the State, Regional and Local Communities

Indonesia is one of the largest producers of palm oil in the world and its industry has become the most valuable agricultural export sector in the last decade. The palm oil industry is a significant contributor to production in Indonesia. The social impact caused by the presence of PT MKS and oil palm companies in general is to provide foreign exchange to the state, even higher than the contribution of oil and gas. In addition, palm oil production also supports the government's energy security program by replacing imported diesel with domestic-produced biodiesel.

The palm oil industry is a labor-intensive industry that can absorb a lot of labor. The absorption of this workforce contributes to increasing the income and welfare of the local community. Improvement in income and welfare of local community will improve purchasing power and stimulate spending that leads to improvement on the overall welfare of the region. The construction of infrastructure and the opening of access can stimulate regional and local economic growth. Corporate CSR programs, including the development of Village Cash can also improve the welfare of local communities.

3.2. HCV-HCS Assessment

Preassessment

A due diligence is conducted to assess the eligibility of the main prerequisites that must be met by PT. MKS. The results of the due diligence of the main prerequisites that must be met by PT. MKS is presented in Table 15.

Table 15. Prerequisites that must be fulfilled by PT. MKS

1. Commitment to environmental and social protection
The commitment to environmental and social protection that has been fulfilled by the company PT. MKS includes: 1. Board of Directors' Decree Number 005/SUSTAINABILITY_FR/P/XII/2011, Concerning Policy for Handling Orangutans (Pongo pygmaeus). 2. Decree of the Board of Directors Number 001/SUSTAINABILITY_FR/P/IX/2011, concerning Occupational Health, Safety and Environment (K3) Policy PT. MKS is a subsidiary of First Resources Ltd. (FR), so that the environmental and social policies of FR will be complied with by PT. MKS. Therefore, the prerequisites related to the commitment to environmental and social protection have been fulfilled.
2. A moratorium on any land clearing or land preparation until the proposed Integrated Conservation and Land Use Plan (ICLUP) is completed
Based on the land cover map or the latest land use change analysis, it shows that land clearing in the HGU area of PT. MKS has been started since 2009 on an area of 116.05; while on an area of 3,495.86 ha, land clearing has not yet begun. Declaration statement from PT. MKS related to moratorium or any land clearing or preparation until the Proposed Integrated Conservation and Land Use Plan (ICLUP) is completed.

Therefore, the requirements related to a moratorium on land clearing or land preparation in HCV and HCS areas have not been fulfilled. Proof of commitment from PT. MKS on moratorium or land clearing or land preparation in areas with non-palm land cover until the proposed integrated conservation and land use plan is completed.
3. Demonstrate legal rights to or permission to explore the Area of Interest
Company PT. MKS obtained a permanent permit for the plantation business of PT. MKS through the Decree of the Regent of Sanggau Number: 400 – 49/IL – 41 – 2008 concerning the Granting of Location Permits for Palm Oil Plantation Purposes for Partnership Patterns in Sekayam and Noyan Subdistricts, Sanggau Regency covering an area of +11,300Ha and a Hak Guna Usaha (HGU) permit from the Head National Land Agency (BPN) through HGU Decree No. 93/HGU/BPN RI/2013 dated September 10, 2013 covering an area of 3,284.86 Ha and No. 55/HGU/BPN RI/2010 dated August 31, 2010 with a permit area of 6,404.05 ha, bringing the total area to 9,688.91 ha. Therefore the prerequisites related to legal rights to or permission to carry out assessments in the area are met
4. The FPIC process has started with full disclosure of the proposed project with all potentially affected communities and stakeholders, and a process for negotiation and forward consent has been agreed, with representatives appointed through an equitable process
The time frame for the FPIC process planned by the company in the HGU area of PT. MKS is already. FPIC process that will be carried out by PT. MKS consists of 6 stages, namely (1) Scoping and identification of representatives, (2) Public Consultation 1, (3) Participatory Mapping, (4) Social Impact Assessment, (5) Land Tenure Study, and (6) Public Consultation 2 (Final). Based on the description above, it can be concluded that the framework for the FPIC process that is planned to be implemented is already in place; however, the implementation of the FPIC process has not yet been implemented in the HGU area of PT. MKS.

At this pre-assessment stage, the study implementation team conveys information to the Company regarding the next stage of the study, which includes a scoping study and a full assessment stage including public consultation. In addition to expressing approval of the process of activities in the HCV-HCSA assessment, the Company also agreed to the ALS procedures and requirements, including the time and cost of the review. The company also understands the consequences of the results of the study, which include recommendations for managing and monitoring conservation areas, especially conservation areas located in partnership lands (PSR). This pre-assessment stage concludes that the company is deemed eligible to proceed to the next stage in the implementation of the integrated HCV-HCSA assessment.

Scoping Study

Examination study in the permit area of PT. MKS includes 7 main activities, namely (1) Determining the scope of the study, (2) Information gathering, (3) Preparation of initial land cover maps and plot analysis, (4) Field visits, (5) Visiting community samples, (6) Identification of stakeholders and initial consultation, and (7) Preparation of a report on the results of the initial examination study. The summary of the inspection study activities in the permit area of PT. MKS.

Table 16. Summary of activity descriptions in the initial screening study

Activities	Discription	Timing
Setting up scoping study	• Based on data and information obtained from the company, the integrated HCV-HCSA assessment in the PT. MKS is carried out on an area of 9,688.91 ha (Based on HGU Decree No. 55/HGU/BPN RI/2010 dated 31 August 2010 covering an area of 6,404.05 ha and No. 93/HGU/BPN RI/2013 dated 10 September 2013 covering an area of 3,284, 86 ha) and 4 villages in the vicinity, namely the villages of Noyan, Semongan, Malenggang and Sungai Tekam. • Landscape boundary of the HCV assessment area of PT. MKS is determined based on the broad landscape. The reason for determining this area as a landscape boundary is because of the interconnectedness (connectivity) between the PT. MKS with the closest Protected Forest around the area. Judging from its boundaries, to the north of the permit area of PT. MKS there is a company PT. Along Inti Surya Utama II, gardens/fields and community settlements, Other Use Areas, Malaysia; to the south there are Production Forests, oil palm plantations, gardens/fields, Protected Forests; in the west bordering PT. Global Prosperous Kalimantan, Other Use Areas, gardens/fields and community settlements; and in the east bordering PT. Bumi Tata Lestari, there are oil	28 November – 4 December 2019

	palm plantations, plantations/fields, Production Forests, Other Use Areas, Limited Production Forests and community settlements.	
Information collection	Documents and Studies: • Final Report of HCS Assessment in the Permit Area of PT. Mitra Karya Sentosa, West Kalimantan Province, Indonesia (Ata Marie Group Ltd, 2016). • Report on Identification and Analysis of the Existence of High Conservation Value Areas in the Permit Area of PT. Mitra Karya Sentosa, Sanggau Regency, West Kalimantan Province (Indonesian Sustainable Palm Oil Foundation, 2010). • Social Environmental Impact Assessment Report in the PT. Mitra Karya Sentosa, Sanggau Regency, West Kalimantan Province (Faculty of Forestry IPB, 2013). • Vegetation – Whitmore and Tantra. • Mamalia : Payne, et al. • Bird : MacKinnon et al. • Herpetofauna : Cox et al. • IUCN Red List of Threatened Species (www.iucnredlist.org). • List CITES Appendics I and II, version May 2019 (CITES, 2019). • Map of Biodiversity Important Areas • Map of Elephant Distribution – IUCN • Maps of Distribution of IBA (Important Bird Area), Birdlife Internasional. • Map of Distribution of EBA (Endemic Bird Area), Birdlife Internasional. • Map of Permit Area of PT MKS • Map of distribution Elephas maximus (IUCN 2008 version 2019-1) • Map of Distribution of Orangtan, Population and Habitat Viability Assessment (FORINA 2016) • Map of distribution *Presbytis melalophos* (IUCN 2008 version 2018-1). • Map of distribution *Helarctos malayanus* (Scotson and F rediksson, G. 2016-2017 version 2018-1). • Map of distribution Rusa unicolor (IUCN 2015 version 2018-1). • List of protected species by Government of Indonesia MoE&F No. P.106 Year 2018 • Map of Protected Area • Map of Forest Area and Aquatic West Kalimantan Province Document and Study : • Topography and Slope: Data DEM SRTM 90 • Land Cover : Sentinel 2A. • Soil : RePProt. • History of Forest disturbance Geospasial : • Map of Permit Area of PT MKS • Map of Spatial Planning of Sanggau Regency • Indicative Map of Postponement of Granting of New Permits for Forest Utilization, Use of Forest Areas and Changes in Designation of Forest Areas and Other Use Areas Revision XVI. • Map of Ecoregional of Kalimantan Island • Map of Intact Forest Lanscapes (IFLs) (www.intactforests.org). • Land System : RePProt. • Map of Biophysiografi of Kalimantan Island. • Map of Rare Ecosystem (www.iucnrle.org.). • Map of Spatial Planning of Wesr Kalimantan Province	28 November – 4 December 2019
Preliminary land cover map generation and plot analysis	Initial land cover maps and plot analysis were made based on the Sentinel 2A interpretation. Based on the results of the analysis, the initial land cover and plot analysis in the permit area can be divided into 13 types, namely Secondary Dryland Forest, Shrubs, Scrub, Rubber Gardens, Mixed Gardens, Oil Palm Gardens, Plantation Forests, Dry Land Agriculture, Savanna/Grasslands, Rice fields, settlements, open land, bodies of water.	28 November – 4 December 2019

Filed Visit	Locations visited in the permit area of PT. MKS covers area boundaries; areas with land cover in the form of secondary forest, shrubs, shrubs, rubber plantations, mixed gardens, oil palm plantations, settlements, open land, and water bodies; and rivers in the area. The locations visited were in the permit area of PT. MKS.	28 November – 4 December 2019
Visiting community samples	Community sample visits were carried out to villages in and around the PT. MKS covers Noyan and Semongan Villages in Noyan District, Malenggang and Sungai Tekam villages in Sekayam District.	28 November – 4 December 2019
Ground truthing initial land cover map	Land cover checks were carried out in the PT. MKS shows that the land cover consists of secondary forest, shrubs, shrubs, rubber plantations, mixed gardens, rice fields, oil palm plantations, employee housing/residential areas, open land and water bodies.	28 November – 4 December 2019
Stakeholder identification and initial consultation	Based on the results of the identification of stakeholders around the permit area of PT. In MKS, several stakeholders were identified, namely the Noyan sub District Government, Sekayam sub District, West Kalimantan BKSDA for the Sanggau District, the Sanggau District Agriculture and Plantation Service, the Sanggau District Environment Service, the Public Works and Spatial Planning Service for the Sanggau District, the Education and Culture Office. Sanggau Regency, as well as village officials: Village Head/Village Secretary, Customary Head, Head of Sub-District, and BPD (Noyan, Semongan, Malenggang and Sungai Tekam Villages).	28 November – 4 December 2019
Preparation of Preliminary Examination Study Results Report	Compilation of the report on the results of the initial inspection study in the permit area of PT. The MKS content refers to the HCV-HCSA Assessment Guidelines to be used during an integrated HCV-HCSA assessment.	28 November – 4 December 2019

At this stage, several parties have been consulted to gather important issues related to the substance of the study. The selection of the parties as resource persons was motivated by the relevance of the activities and the main concerns of these parties to the study area, as well as the potential presence of HCV and HCSA elements.

Table 17. List of Stakeholder Consultations on Examination Study Activities in the Permitted Area

Summary of Interview Results and Discussions with Communities in Noyan Village
Interaction Type: Focus Group Discution (FGD). Participants: 1. Antonius Simanto (Head of village) 2. Yohanes Yayan Roni (Youth Leader/Staff of PT. MKS) 3. Napur (Head of Community/Staff of PT. MKS) 4. Salvianus (GA PT. MKS) 5. Rudi Riana (Kandir FR Pontianak) Facilitator: Yayan Saryani (PT. SAN) Results of interviews and discussions with the community in Noyan Village Result of Discussion: • Land acquisition has been carried out by the company since 2009 and ended in June 2019. • The value of Compensation for Growing Plantation in 2008 only reached Rp. 350.000,-/Ha for vacant land and Rp. 500.000,-/Ha for land that has plants growing on it. • The value of Compensation for Growing Plantation in 2012 only reached Rp. 4,000,000,-/Ha for vacant land. • The Compensation Value for Growing Plantation in 2014 only reached Rp. 8,000,000,-/Ha for vacant land. • The value of Compensation for Growing Plantation in 2019 (last) reached Rp. 10,000,000,-/Ha for vacant land and Rp. 12,000,000,-/Ha for land that has plants growing on it. • There is a communal/family owned tembawang. • Some residents in several hamlets still use clean water for drinking, cooking and other purposes, sourced from the Noyan and Motang rivers. • The Noyan River and the Motang River are also used as fishing grounds for residents. Types of fish caught include catfish, tempalau, red fish, toman, cork, starch, baung, seluang, shrimp, tilau and others. While the tools used to catch fish other than fishing rods are trawls, trap nets and nets. • In addition to the Noyan and Motang rivers, there is the Kembayan river which is used for fishing and toilets for local residents. • There are still people who like to hunt. The types of game obtained included squirrels, rats, pigs, deer, civets, deer/deer, jungle cats and perpung (phyton).

- There are rainfed rice fields around the PT. MKS.
- There are still many people who take animal feed inside the PT. MKS.
- Both markets and economic institutions such as CU and Cooperatives already exist in Noyan village. Even for shopping places are already available in Noyan hamlet.
- In every village there are old graves as well as villages that are located directly adjacent to the PT. MKS.
- There are still residents who use medicinal plants taken near or around PT. MKS. *Keramat Pedagi (dalam Desa)*

Concerns: -

Main Recommendation:

- There is good cooperation and communication between PT. MKS with the community in terms of maintaining and preserving the environment, especially in maintaining the residents' water sources so that they are not polluted.
- The absorption of labor from surrounding villages is further enhanced.

Summary of Interview Results and Discussions with Communities in Semongan Village

Interaction type: Focus Group Discution (FGD).

Participant:

1. Marius (Head of Village)
2. Darius L (Customary Head/Community Leader)
3. Salvianus (GA PT. MKS)
4. Rudi Riana (Kandir FR Pontianak)

Facilitator: Yayan Saryani (PT. SAN)

Results of interviews and discussions with the community in Semongan Village

- Land acquisition has been carried out by the company since 2008 and ended in June 2019.
- The value of Compensation for Growing Plantation in 2019 (last) reached Rp. 10,000,000,-/Ha for vacant land and Rp. 12,000,000,-/Ha for land that has plants growing on it.
- There is a communal tembawang (Tembawang Serabu which is a tembawang belonging to several villages with an area of up to + 4 ha) within the permit area of PT. MKS is based on the informant's narrative.
- Some residents in several hamlets still use clean water for drinking, cooking and other purposes, sourced from the Rabu Sampua, Serabu, and Belau rivers.
- To protect this water source, residents apply customary law.
- There are rainfed rice fields around the PT. MKS but not well maintained.
- There are still many people who take animal feed inside the PT. MKS.
- In every village there are old graves as well as villages that are located directly adjacent to the PT. MKS.
- There are still residents who use medicinal plants taken near or around PT. MKS.
- There are several types of plants that are commonly used for traditional ritual activities, including sabang leaves, bamboo, betel, areca nut, lemongrass, basil.
- Historic and sacred areas: Keramat Atok Pala Tujuh (within village) & Manta Parang (within village)

Concern:

There are concerns about the contamination of water used for drinking water sources even though it has been traditionally protected.

Main Recommendation:

There is good cooperation and communication between PT. MKS with the community in terms of maintaining and preserving the environment, especially in maintaining the residents' water sources so that they are not polluted.

Summary of Interview Results and Discussions with Communities in Malenggang Village

Interaction type: Focus Group Discution (FGD).

Participant:

1. Elisabet Desi (Sekdes)
2. Fransisius Wairan (Kepala Dusun)
3. Salvianus (GA PT. MKS)
4. Rudi Riana (Kandir FR Pontianak)

Facilitator: Yayan Saryani (PT. SAN)

Results of interviews and discussions with the community in Malenggang Village

Discussion Result:

- There is overlapping land between PT. MKS and PT. BTL however has been resolved.
- There is a communal/family owned tembawang.
- Some residents in several hamlets still use clean water for drinking, cooking and other purposes, which are sourced from the Sepan, Jelutung, Peban, Sepan Putih and Saih rivers.
- Apart from river water, residents usually use rain water for drinking water.
- These rivers are also used as fishing grounds for residents.
- There are still people who like to hunt. Types of game animals obtained include deer, wild boars, deer and others.
- There are still residents who take animal feed inside the PT. MKS.
- There are still residents who use medicinal plants taken near or around PT. MKS.

Concern:

There are concerns about the contamination of water used for drinking water sources.

Main Recommendation:

- There is good cooperation and communication between PT. MKS with the community in
- terms of maintaining and preserving the environment, especially in maintaining the residents'
- water sources so that they are not polluted.
- The absorption of labor from surrounding villages is further enhanced.
- Socialization of Amdal to the community.

Summary of Interview Results and Discussions with Communities in Sungai Tekam Village

Interaction Type: Focus Group Discution (FGD).

Participants:

1. Tiotinus S (Village Customary)
2. Hendrikus jumali (Head of Village)
3. Alpius Salun (Head of Village Representative Body)
4. FL. Ain (Community Leader/Customary Head)
5. Vinsensius Nayat (Community Leader/Ketua RT 02)
6. Jhon Kenedi (Community Leader/ Land owned)
7. Salim (Community Leader)
8. Salvianus (GA PT. MKS)
9. Rudi Riana (Kandir FR Pontianak)

Facilitator: Yayan Saryani (PT. SAN)

Results of interviews and discussions with the community in Sungai Tekam Village

- Part of this village area is included in the HGU area of PT. MKS (Dusun Guna Bandir).
- The village community basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. MKS in collaboration with PT. SAN as long as it does not harm the community.
- The main livelihoods of the community today are farmers in gardens, fields and rice fields. Some of them are employees in the company PT. SISM, traders, honorary and others.
- The majority religion in this village is Catholic Christianity (90%) while the rest are Protestant Christianity and Islam.
- In meeting basic needs, the community is not only supplied with natural products and plants on their land, they also buy from stalls or shops around the village or buy directly from the nearest market.
- The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields, rice fields and buying (50%). Very few cultivate and cultivate paddy fields and are generally subsistence. This is because agricultural land began to narrow.
- The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. Residents usually have fruit trees in their family and private gardens, and they are also used to growing vegetables that are intercropped with rice plants in the fields.
- Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (80%).
- Several types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and goats.
- Hunting and fishing activities are carried out only as hobbies.
- To meet the need for clean water, especially for drinking, the villagers of Sungai Tekam usually suffice it by utilizing drilled wells around their homes and nearby river water that flows through community settlements including the Bayan River, Segumon River, Beluk River, Jeriyan River, Saadah Springs, the Kaloang River and the Tuba River.
- The rivers used for fishing include the Bayan River, the Segumon River, the Beluk River, the Kaloang River and the Tuba River.
- As for MCK, apart from using water from wells, the river that flows through the village is the Bayan River and the Segumon River.
- Residents still use herbal medicines as an alternative to chemical drugs (25%). These herbal medicines are generally obtained from inside and outside the HGU PT. MKS.
- There are still residents who take animal feed such as grass and tubers from within the HGU area of PT. MKS (5%) .
- The indigenous tribe of this village is the Iban Dayak. Other tribes in this village are Malay, Javanese, Batak and Flores.
- Culture in land management by residents in the area is the same as in other villages in managing land.
- Sacred places in this village include:
  - Tungkup (Pendam).
  - Tembawang guna.
  - Lulung bengris.
- Issues that arise in the community include:
  - The issue of the lack of employment by PT. MKS.
  - The issue of overlapping community lands.
  - CSR assistance is still limited (both health, education, infrastructure, etc.).
  - There are unlawful acts committed by company personnel where there are allegations of falsification of land handover documents from residents, causing protests from land owners.

- The process of eviction of land without permission and without going through land compensation first to the land owner so that several times the company received warnings and customary fines (nominal fines ever received between Rp. 1,000,000,- to Rp. 140,000,000,-).

- The positive impacts of the existence of the company include:
  - The road that connects between villages and village access to several places is getting better.
- The negative impacts include:
  - Residents' agricultural land is getting narrower.
- Community expectations include:
  - Immediate administration of letters for plasma participants.
  - Residents are given convenience in obtaining work in the company with wages that follow the wages in general.
  - Increased CSR assistance by companies such as assistance for health, education, infrastructure and other social activities in the community.

Summary of Interview Results and Discussions with Communities in Noyan Sub Disrict

Intercation Type: Indepth Interview.
Participant: Sukamto (Governance Section)
Result of Interview and Discussion:
The sub-district welcomes the integrated HCV – HCS pre-assessment study and PT. MKS and invites them to carry out a complete assessment.
Concern:
Main Recommendation:

- There is good cooperation and communication between PT. MKS with the community in terms of maintaining and preserving the environment, especially in maintaining the residents' water sources so that they are not polluted.
- Maintain good relations with the community.
- Always coordinate with the sub-district authorities in various matters, especially regarding the activities of the PT MKS company in the community.

Summary of Interview Results and Discussions with Communities in Sekayam Sub Disrict

Intercation Type: Indepth Interview
Participant: Salimin (Economic and Development Section)
Result of Interview and Discussion:
The sub-district welcomes the integrated HCV – HCS pre-assessment study and PT. MKS and invites them to carry out a complete assessment.
Concern:
Main Recommendation:

- Maintain good relations with the community.
- Always coordinate with the sub-district in various matters, especially regarding the activities of the PT MKS company in the community.

Summary on Conservation Area

HCV 1: Biodiversity Concentration

HCV 1	Finding
Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels.	**Present**

In the Common Guide for HCV Identification (HCVRN, 2013), it is explained that HCV1 is the presence of rare, threatened or endangered species (RTE); the presence of nationally and internationally recognized biodiversity priority areas; natural habitat with good conditions; protected areas for biodiversity concentration; and species concentration spatially and temporally.

1. Presence of Rare, Threatened or Endangered Species (RTE)

a. Rare Species

1) Flora/Vegetation

The richness of plant species found in the concession area of PT. MKS as many as 366 species which can be grouped into 93 families. Based on the protection status, in the permit area of PT. MKS did not find any protected plant species according to the Regulation of the Minister of Environment and Forestry (Permen LHK) No. P.106 in 2018).

2) Fauna/Wildlife

The richness of wildlife species found in the concession area of PT. MKS as many as 109 species of wildlife which can be grouped into 60 families, with details: 13 species of mammals and 12 families, 66 species of birds and 29 families, and 17 species of herpetofauna and 11 families, and 13 species of fish and 8 families. Based on their protection status, the types of wildlife found in the PT. MKS protected under Permen LHK No. P.106 In 2018 there are 15 species (5 species of mammals and 10 species of birds).

b. Threatened or Endangered Species

1) Flora/Vegetation

The number of plant species in the permit area of PT. There are 2 types of MKS included in the CITES Appendix II list; and there are 5 species of plants that fall into the VU/Vulnerable (vulnerable) category, 5 species that fall into the EN/Endangered (endangered) category, and 2 species that fall into the IUCN CR/Critically Endangered (critical) category.

2) Fauna/Wildlife

In the permit area of PT. MKS found 18 species of wildlife included in the CITES list including 3 species of Appendix I (mammals) and 15 species of Appendix II (3 species of mammals, 6 species of birds, and 6 species of herpetofauna); while the wild animals included in the VU/Vulnerable (vulnerable) category are 4 species (2 species of mammals, 1 species of birds and 1 species of herpetofauna); including EN/Endangered (threatened) category as much as 1 species (Mammal); and included in the CR/Critically Endangered category (endangered/critically) as many as 2 species (mammals). Wildlife which is included in the CR (pangolin) category in the PT. MKS was found based on the results of interviews with the surrounding community. While the Bornean Orangutans were found based on the overlay results with the Kalimantan Orangutan Distribution Map (IUCN). Referring to the distribution map of Pangolin (Manis javanica) and Bornean Orangutan (Pongo pygmaeus spp. pygmaeus), the concession area of PT. MKS belongs to the distribution area of the Pangolin and Bornean Orangutan (CR/critical), so that with the precautionary principle these species are found in the study area.

c. Endemic Species

In the permit area of PT. MKS found 11 species of endemic plants. In the permit area of PT. Two types of wildlife were found in MKS, including endemic, namely the Kelawat/Klempiau Gibbon (*Hylobates muelleri*) and the Bornean Orangutan (*Pongo pygmaeus spp. pygmaeus*).

In the assessment landscape area, based on secondary data searches, potentially protected plant species according to the Minister of Environment and Forestry No. P.106 as many as 8 types; including endemic as many as 2 types; including the list of CITES Appendix II as many as 12 species; including VU/Vulnerable (vulnerable) categories as many as 4 species, EN/Endangered (endangered) as many as 1 species, and CR/Critically Endangered (critical) according to IUCN as many as 8 species. For fauna, at the landscape boundary based on secondary data tracing, 39 species of wildlife are potentially found that are protected according to Permen LHK no. P.106 (mammals as many as 18 species, birds as many as 11 species, herpetofauna as many as 9 species, and fish as many as 1 species); 13 species of wildlife including endemic (mammals as many as 11 species, birds as many as 1 species, and herpetofauna as many as 1 species); 14 species of wildlife including migrants (9 species of birds and 5 species of herpetofauna); including the list of CITES Appendix I as many as 16 species (8 species of mammals, 1 species of birds, 6 species of herpetofauna, and 1 species of fish), Appendix II of 25 species (9 species of mammals, 7 species of birds and 9 herpetofauna species), and Appendix III as much as 1 species (mammals); and included in the VU/Vulnerable (vulnerable) category as many as 15 species (9 species of mammals, 3 species of birds, and 3 species of herpetofauna), 7 species of EN/Endangered (mammals, 3 species of herpetofauna), and 1 species of fish), and CR/Critically Endangered (critical) according to the IUCN as many as 7 species (3 species of mammals, 2 species of birds, and 2 species of herpetofauna).

2. Spatial and Temporal Species Concentration

In the permit area of PT. MKS did not find habitats that became the concentration of species spatially and temporally. However, around the landscape of the PT. MKS was found to be a habitat that became a spatial concentration of species. The area of species concentration spatially can be seen from the distribution area of key species on the island of Kalimantan, especially the province of West Kalimantan using IUCN data such as the Bornean Orangutan. Almost the entire permit area of PT. MKS is located in the distribution area of the Bornean Orangutan.

Most of the fauna species found are resident species in the study area, except for the Asian kite (Hirundo rustica) which uses its habitat temporally. Referring to IUCN data and Sukmantoro et. al. (2013), the Asian kite is a type of migratory bird that is quite common in Indonesia. Based on observations, the Asian kite was found while perched on a power line around the permit area of PT. MKS. This bird usually uses electrical wiring in residential areas as a place to perch and spend the night and use agricultural land and plantations as a place to find food. In the permit area of PT. MKS did not find any habitat that became a temporary stopover such as mudflats, floodplains or large bodies of water which are generally the main destinations for migratory waterbird species that migrate on a large scale (large groups). So based on the consideration of the analysis, in the permit area of PT. In MKS, there were no species that used the habitat temporarily that used part of the area in the PT. MKS and its surroundings as a large-scale movement of migratory birds.

3. Biodiversity Concentration

Key areas of biodiversity are nationally identified areas of global significance. Several international organizations have identified key areas for biodiversity with their own criteria. Several internationally recognized key areas of biodiversity around the PT. MKS is presented in Table 15.

Table 18. Biodiversity Key Area in the Permit Area PT. MKS

Key Biodiversity Areas	Description
Ramsar Site	In Kalimantan there are 2 Ramsar sites, namely Tanjung Puting National Park in Seruyan Regency, Central Kalimantan Province and Danau Sentarum National Park, Kapuas Hulu Regency, Kalimantan Province. The closest distance to the permit area of PT. The MKS with ramsar site is with Danau Sentarum National Park and is 134 km to the east of the permit area.
Conservation Area	In the permit area of PT. MKS did not find any conservation areas. The closest conservation area is the G. Nyiut Nature Reserve - Penrissen, located in the west and ± 31 km away.
Protected Forest	In the permit area of PT. MKS did not find any protected forest. The nearest protected forest is located in the south and is about ± 0.4 km away, namely HL. Gunung Baduk.
Endemic Bird Area (EBA)	In the permit area of PT. MKS does not exist or is in the EBA area coverage. The nearest EBA area is located to the west and is ± 39 km away.
Important Bird Area (IBA)	In the permit area of PT. MKS does not exist or is in the IBA area coverage. The nearest IBA area is located west of the PT. MKS and is ± 31 km away.
Orang Utan Distribution	PT. MKS is located in the distribution area of the Bornean Orangutan.

Based on Table 15, it can be seen that in the PT. MKS did not find Ramsar Sites, conservation areas, protected forests, EBA areas, and IBA areas. However, based on an overlay with a map of the distribution of the Bornean Orangutan, the concession area of PT. MKS is mostly located in the distribution area of the Bornean Orangutan according to the IUCN. Based on observations, there were no signs of orangutans, either footprints or sleeping trees. The results of interviews with local communities also stated that they had never found any orangutans in the forest area of the PT. MKS. However, based on considerations and the precautionary principle, the Bornean Orangutan is declared to be present in the area. In connection with this, the permit area of PT. MKS in the national

and/or regional context is stated to provide important supporting functions for key biodiversity areas in the vicinity. In the assessment landscape area, there were no conservation areas, EBA areas, IBA areas, but the distribution areas of the Bornean Orangutan and protected forest, namely HL. Gunung Buduk, HL. Gunung Nahi and HL. Gunung Bengkawan (G. Teriyang).

4. Protected Areas for Concentration of Biodiversity

Areas within the permit area of PT. MKS which is planned as a protected area because it includes NKT area of 8,110.45 ha, includes: river and its boundary area of 364.14 ha, forested area of 108.48 ha, hilly area of 97.51 ha, Orang utan distribution of 7,447.82 ha, and a sacred place/cultural site of 1.72 ha. In connection with this, then in the permit area of PT. MKS did not find a protected area for the concentration of biodiversity. In the assessment landscape area, the protected area located around the PT permit area. MKS (within the boundaries of the landscape) as much as, covering: the river and its boundary is 1,619.30 ha, TBE area weighs 2,341.8 ha. In connection with this, then around the permit area of PT. MKS (within the landscape boundary) did not find a protected area for the concentration of biodiversity.

In the area of permission of PT. MKS there are 9 rivers or tributaries with their boundaries, namely 9 rivers/tributaries, namely S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba. Land cover in the river boundary area in the permit area of PT. MKS can be divided into 5 (five) types, namely secondary dryland forests, shrubs, mixed plantations, oil palm plantations, and mixed dryland agriculture. Around the permit area of PT. MKS (within the boundaries of the landscape) are found as many as 9 rivers. Land cover in the river boundary area around the PT permit area. MKS can be divided into 9 types, namely Secondary Forest, Shrub, Mixed Garden, Open Land, Dry Land Agriculture, Settlement, Rice Fields, Palm Oil and Water Bodies. Referring to Presidential Decree Number 32 of 1990, the river boundary is a local protection area designed to protect its ecological function, so that the river boundary in and around the PT permit area. MKS is defined as NKT 1 area.

5. Natural Habitat with Good Condition

In and around the landscape of the PT. MKS found forested areas in the form of secondary dry land forest. Therefore, in the permit area of PT. MKS is found in areas that have or provide a function to support species diversity, both flora and fauna.

6. Freshwater Swamp Area

In and around the PT. In MKS, there were no freshwater swamp areas that had or provided a function to support species diversity, both flora and fauna.

7. Wildlife Corridor

Within the permit area of PT. MKS did not find any ramsar sites, conservation areas, IBA areas, and EBA areas, but the distribution areas of the Bornean orangutans were found. In this regard, in the permit area of PT. MKS found a wildlife corridor. At the landscape level around the PT. MKS found the distribution area of the Bornean Orangutan and protected forest, so that in the vicinity of the PT. MKS still found wildlife corridors. Of the 23 species of wildlife which are classified as rare, threatened and endangered found in the PT. MKS, 13 species of which are also found at the landscape level, namely Monyet Ekor-panjang (*Macaca fascicularis*), Owa Kalawat (*Hylobates muelleri*), Trengiling (*Manis javanica*), Rusa Sambar (*Rusa unicolor*), Elang tikus (*Elanus caeruleus*), Enggang klihingan (*Anorrhinus galeritus*), Layanglayang asia (*Hirundo rustica*), Kipasan belang (*Rhipidura javanica*), Tiong emas (*Gracula religiosa*), Ular Sendok Sumatera (*Naja sumatrana*), Ular Sawah (*Python reticulatus*), Biawak Air Asia (*Varanus salvator*), Labi-labi (*Dogania subplana*). Therefore, with the efforts to protect the 13 species in the concession area of PT. MKS, then it can support MVP (Minimum Viable Population) at the landscape level, namely as a temporary stopover or foraging for food and as a local animal movement path (corridor). These locations are the 19 riverbanks in the area, especially those with land cover in the form of secondary dryland forest and shrubs.

8. Minimum Viable Population (MVP)

The term 'minimum' viable population (MVP) is a term commonly used in conservation biology (Soule 1987). MVP is the smallest population size that will ensure long-term survival (Shaffer 1981). Ewens et al. (1987) stated that in general there are two concepts of determining the minimum viable population. The first concept is the determination of MVP based on genetics which emphasizes the rate of genetic loss from a population including fitness decline and genetic drift. The second concept is the determination of MVP based on demographics which emphasizes the possibility of population extinction due to demographic pressures. Based on the results of observations of wildlife on a transect length of 200 - 1,000 meters and a track width of 100 meters, and assuming that at each observation location one individual is found, the estimated abundance of protected/rare and/or threatened wildlife species found in the PT permit area is estimated. MKS ranges from 1-2 individuals/ha. Referring to Franklin (1980), the abundance of wildlife which is classified as endemic (limited distribution), protected, and/or threatened does not meet the minimum sustainable population size; in addition, at the landscape level it does not meet the minimum viable population.

In connection with the foregoing, it can be concluded that in and around the permit area of PT. MKS found HCV 1 covering an area of 20,578.60 ha. The total area of HCV 1 within the PT. MKS area of 506,17 ha, while the total area of HCV 1 around the permit area of PT. MKS area is 20.072,43 ha.

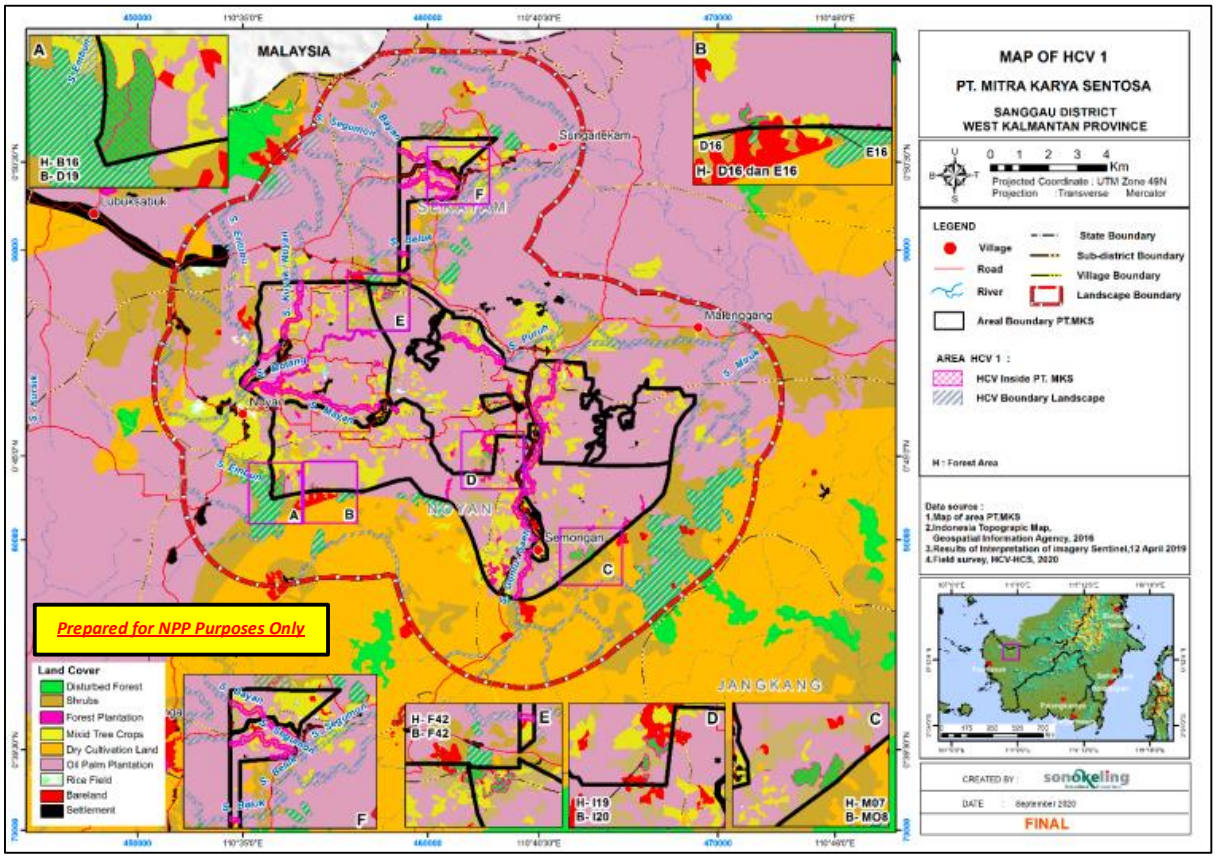


Figure 8. Map of Disribution HCV 1 within and Around Permit Area PT MKS

HCV 2: Wider Landscape

HCV 2	Finding
Wider landscape level ecosystems, mosaic of ecosystems and Intact Forest Landscape significant at the global, regional or national level.	**Present**

In the Common Guide for HCV Identification (HCVRN, 2013), it is explained that HCV 2 is the presence of ecosystems at the level of broad landscapes, ecosystem mosaics, and intact forest landscapes; a decent population of most native species; and natural distribution and quantity patterns.

1. Ecosystems at the Wider Landscape Level, Ecosystem Mosaics, and Intact Forest Landscape
Location of the permit area of PT. MKS is not adjacent to intact forest landscapes. The intact forest landscape is located in the southeast of the study area and the closest distance is about ± 116 km (www.intactforests.org). Besides, in the area of PT. MKS does not exist and is not part of the core area, but in the vicinity of the PT. MKS has a core area. The core area located around the permit area of PT. MKS includes:

1. The nearest conservation area is located west of the PT. MKS namely CA Gunung Nyiut-Penrissen is ± 31 km away;
2. The nearest protected forest is located to the south of the PT. MKS (HL Gunung Buduk) and is ± 0,4 km away, in addition there is protected forest to the west of the HGU area (HL Gunung Nahi) within ± 3 km and protected forest to the southeast of the HGU area (HL G. Bengkawan (G. Teriyang)) is ± 4,2 km away;
3. The nearest EBA area is located west of the PT. MKS namely EBA Borneo Mountain is ± 39 km away;
4. The nearest IBA area is located west of the PT. MKS namely IBA Mount Niut-Poteng is ± 31 km away; and
5. The nearest Peat Hydrology Unit (KHG) is located in the southeast of the PT. MKS and is ± 52 km away;

In this regard, in the area of the PT. MKS found no areas containing HCV 2. There were also no conservation areas, EBA areas, IBA areas and KHG areas found in the boundary area of the assessment landscape. However, there is a protected forest. In this regard, in the vicinity of the permit area of PT. MKS found areas containing HCV 2.

2. Decent Population of Most Natural Species
In the permit area of PT. MKS was found in a suitable population distribution area of most of the natural species. The proper population distribution area of some of the natural species in question is the distribution area of the Bornean Orangutan, almost the entire area is in the concession area of PT. MKS. Although based on the results of observations and interviews, neither the presence nor traces of Orangutans were found, but based on the precautionary principle and consideration, Orangutans are considered to be present in the concession area of PT. MKS. In connection with this information, HCV 2 was found in the PT. MKS.

In the boundary area of the assessment landscape, the distribution area of the Bornean Orangutan is found. In this regard, in the vicinity of the permit area of PT. MKS found areas containing HCV 2.

3. Distribution Patterns and Natural Amounts
PT. MKS was originally a secondary dryland forest, shrubs, mixed rubber plantations and open land. PT. MKS has suffered serious damage caused by illegal logging activities and encroachment of the area. Judging from the land cover, the land cover in the permit area of PT. MKS consists of 9 types, namely secondary forest, shrubs, mixed rubber plantations, oil palm plantations, dry land agriculture, open land, settlements, rice fields, and water bodies. Although there are still natural ecosystems in the area in the form of secondary dryland forest, in the study area, exotic and invasive plant species were found. In relation to this information, HCV 2 was not found in the PT. MKS. In the landscape area, seen from the land cover, it consists of 9 types, namely secondary forest, shrubs, mixed rubber plantations, oil palm plantations, dry land agriculture, open land, settlements, rice fields, and water bodies. In connection with this information, HCV 2 was not found around the PT. MKS.

In connection with the foregoing, it can be concluded that in and around the permit area of PT. MKS found HCV 2 covering an area of 23.200,72 ha. The total area of HCV 2 within the PT. MKS covers an area of 8.292,93 ha, while the total area of HCV 2 around the permit area of PT. MKS is 14.907,79 ha.

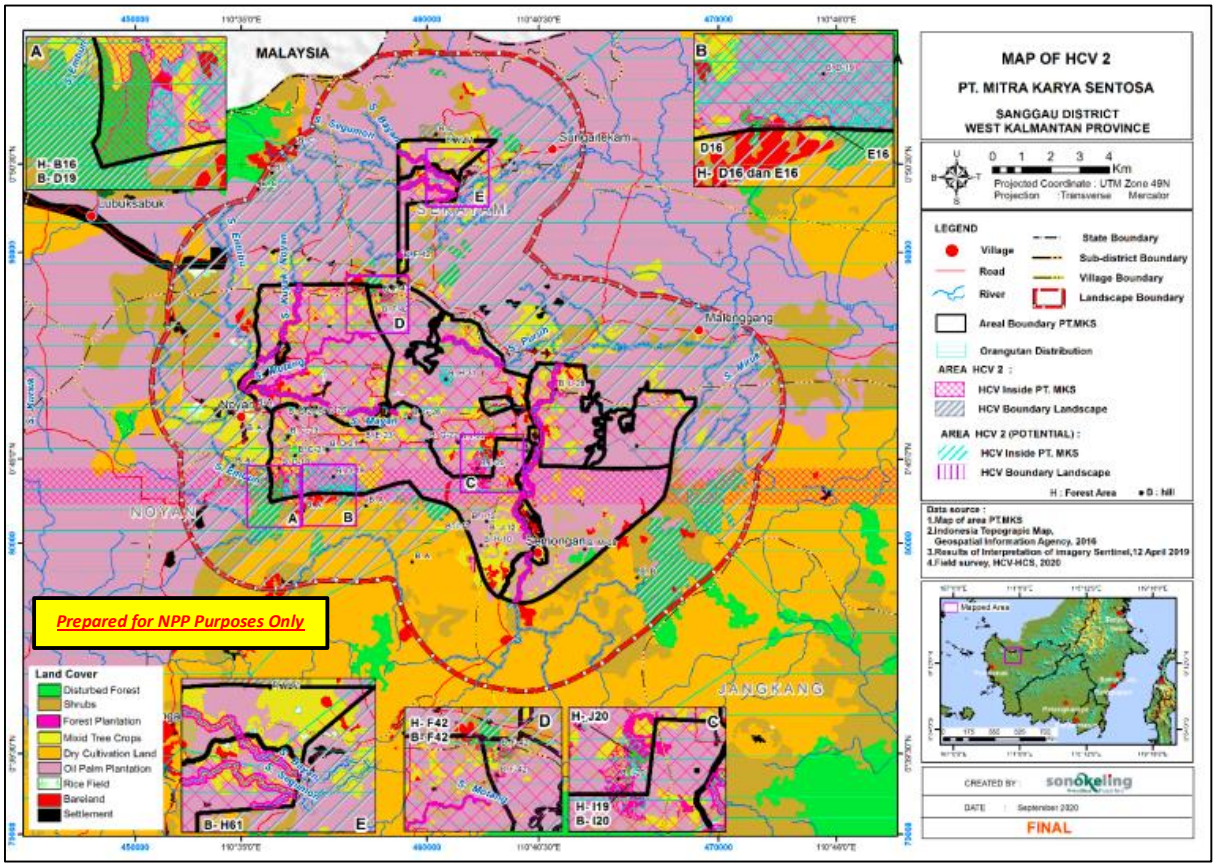


Figure 9. Map of Disribution HCV 2 Within and Around Permit Area PT MKS

HCV 3: Rare Ecosystems

HCV 3	Finding
Rare, threatened, or endangered ecosystems, habitats, or sanctuaries.	**Present**

In the 2008 Indonesian Toolkit, the presence of HCV 3 was marked by (1) The existence of a threatened ecosystem, namely (a) In a bio-physio-geographic unit an ecosystem had lost 50% or more of its initial area or (b) In a bio-physio-geographic unit, some ecosystems will experience a loss of 75% or more of their original area based on the assumption that all conversion areas in spatial planning can be converted; and (2) Existence of rare ecosystems: having natural or human factors of natural ecosystems that cover less than 5% of the total area of a bio-physiographic unit.

Within the permit area of PT. In the past MKS (before conversion) four types of ecosystems were found, namely mixed dipterocarp forest or hills above malihan rock, mixed Dipterocarp forest association on alluvial soil and sandstone, mixed dipterocarp forest association or hills on malihan rock and granite rock, and the association of mixed dipterocarp forests or hills on volcanic rocks, metamorphic rocks and granite rocks. Around the permit area of PT. MKS (within the landscape boundary) in the past (before conversion) five types of ecosystems were found, namely mixed dipterocarp forest or hills above malihan rock, mixed dipterocarp forest association or hills above malihan rock and granite rock, mixed Dipterocarp forest association on soil alluvial and sandstone, lowland forest over sandstone, and mixed dipterocarp forest associations or hills on volcanic rock, metamorphic rock and granite rock.

At present, judging from the land cover, the four ecosystem types can be divided into 8 types, namely secondary forest, shrubs, mixed rubber plantations, oil palm plantations, dry land agriculture, rice fields, open areas, and built areas. and settlements. In the three types of ecosystems in the PT. MKS is currently still found in areas that have land cover in the form of forested areas in the form of secondary forest, namely in mixed dipterocarp forest associations or hills above metamorphic rocks and granite rocks and mixed dipterocarp forest associations or hills on volcanic rocks, metamorphic rocks and granite rocks covering an area of 120,43 ha.

In clarifying threatened and/or rare ecosystems in and around the permit area of PT. MKS uses a precautionary approach. The results of the identification of HCV 3 using the precautionary approach are presented in Table 16.

Table 19. Results of HCV 3 identification using a Precautionary Approach within and around Permit Area PT. MKS

No.	Question	Answer	Instructions	Justifiction
3.1	Are one or more ecosystems categorized as threatened or rare located (i) inside the MU, or (ii) outside the MU area but are likely to be affected by the MU's planned use?	Yes	Possible HCV 3 in the MU or nearby; go to 3.2	Mixed dipterocarp forest ecosystem or hills on metamorphic rock, mixed Dipterocarp forest association on alluvial soil and sandstone, mixed dipterocarp forest association or hills on metamorphic rock and granite, and mixed dipterocarp forest association or hills on volcanic rock, metamorphic rock and granite in the permit area of PT. MKS; and mixed dipterocarp forest ecosystems or hills on metamorphic rocks, mixed dipterocarp forest associations or hills on metamorphic rocks and Mixed dipterocarp forest ecosystem or hills on metamorphic rock, mixed Dipterocarp forest association on alluvial soil and sandstone, mixed dipterocarp forest association or hills on metamorphic rock and granite, and mixed dipterocarp forest association or hills on volcanic rock, metamorphic rock and granite in the permit area of PT. MKS; and mixed dipterocarp forest ecosystems or hills on metamorphic rocks, mixed dipterocarp forest associations or hills on metamorphic rocks and
3.2	Is this ecosystem a vegetation on peat land?	No	Continue to 3.4	Mixed dipterocarp forest ecosystem or hills on metamorphic rock, mixed Dipterocarp forest association on alluvial soil and sandstone, mixed dipterocarp forest association or hills on metamorphic rock and granite, and mixed dipterocarp forest association or hills on volcanic rock, metamorphic rock and granite in the permit area of PT. MKS; and mixed dipterocarp forest ecosystems or hills on metamorphic rocks, mixed dipterocarp forest associations or hills on metamorphic rocks and granite rocks, mixed dipterocarp forest associations on alluvial and sandstone soils, lowland forests on sandstone, and mixed or mixed dipterocarp forest associations. hills above volcanic rock, metamorphic rock and granite rock around the permit area of PT. MKS which is considered threatened has a

No.	Question	Answer	Instructions	Justifiction
				layer of organic matter with an average thickness of below 25 cm.
3.4	Has the ecosystem undergone drastic land cover changes so that it meets the criteria for "unproductive land" based on the Minister of Forestry Decree No. 21 / Kpts-II / 2001.	Yes	It is possible that HCV 3 is not present but needs to continue to 3.5	<u>Within the permit area of PT. MKS:</u> Mixed dipterocarp forest ecosystem or hills on metamorphic rock covering 174.07 ha, mixed Dipterocarp forest association on alluvial soil and sandstone covering 4,986.20 ha, mixed dipterocarp forest association or hills on metamorphic rock and granite rock, and forest associations mixed dipterocarpaceae or hills on volcanic rocks, metamorphic rocks and granite rocks covering an area of 4,415.80 ha within the concession area of PT. MKS has a total woody natural vegetation biomass of less than 5 m3 per ha. <u>Around the permit area of PT. MKS:</u> Mixed dipterocarp forest ecosystems or hills on metamorphic rocks, mixed dipterocarp forest associations or hills on metamorphic rocks and granite rocks, mixed Dipterocarp forest associations on alluvial and sandstone soils, lowland forests on sandstone, and mixed or mixed dipterocarp forest associations hills above volcanic rock, metamorphic rock and granite rock around the permit area of PT. MKS area of 120.43 ha has a total woody natural vegetation biomass of less than 5 m3 per ha.
		No	HCV 3 is in the area around the MU	<u>Within the permit area of PT. MKS:</u> • Mixed dipterocarp forest association ecosystem or hills on metamorphic rock and granite rock, and mixed dipterocarp forest association or hills on volcanic rock, metamorphic rock and granite rock within the concession area of PT. MKS area of 120.43 ha has natural woody vegetation of more than 5 m3 per ha. • Mixed dipterocarp forest ecosystems or hills on metamorphic rocks, mixed dipterocarp forest associations or hills on metamorphic rocks and granite rocks, mixed Dipterocarp forest associations on alluvial and sandstone soils, lowland forests on sandstone, and mixed or mixed dipterocarp forest associations hills above volcanic rock, metamorphic rock and granite rock around the permit area of PT. MKS area of 120.43 ha has a total woody natural vegetation biomass of less than 5 m3 per ha.
3.5	Is it still possible that the ecosystem can be restored through natural processes if it is not converted by considering the following factors: (i) the ecological attributes or characteristics of the related ecosystem, (ii) the condition and	No	Absent of HCV 3	Mixed dipterocarp forest ecosystem or hills on malihan rock covering 174.07 ha, mixed Dipterocarp forest association on alluvial soil and sandstone covering 4,986.20 ha, mixed dipterocarp forest association or hills on malihan rock and granite rock, and dipterocarp forest association mixed or hilly rock above

No.	Question	Answer	Instructions	Justifiction
	status of the surrounding land, (iii) the prevailing spatial planning, and (iv)) regional development planning?			volcanic rock, metamorphic rock and granite rock covering an area of 4,415.80 ha within the permit area of PT. MKS; and mixed dipterocarp forest ecosystems or hills on metamorphic rocks, mixed dipterocarp forest associations or hills on metamorphic rocks and granite rocks, mixed dipterocarp forest associations on alluvial and sandstone soils, lowland forests on sandstone, and mixed or mixed dipterocarp forest associations. hills above volcanic rock, metamorphic rock and granite rock around the permit area of PT. MKS area of 120.43 ha has been highly degraded and (i) grows on sandy and infertile soil, (ii) is adjacent to farmers' areas and other PT plantation areas, and (iii) is located in other plantation areas and areas with a population solid one.

Based on the description above, it can be concluded that in and around the permit area of PT. MKS found HCV 3 covering an area of 1.336,87 ha. The total area of HCV 3 within the PT. MKS covers an area of 166,76 ha, while the total area of HCV 3 around the permit area of PT. MKS area is 1.170.106 ha.

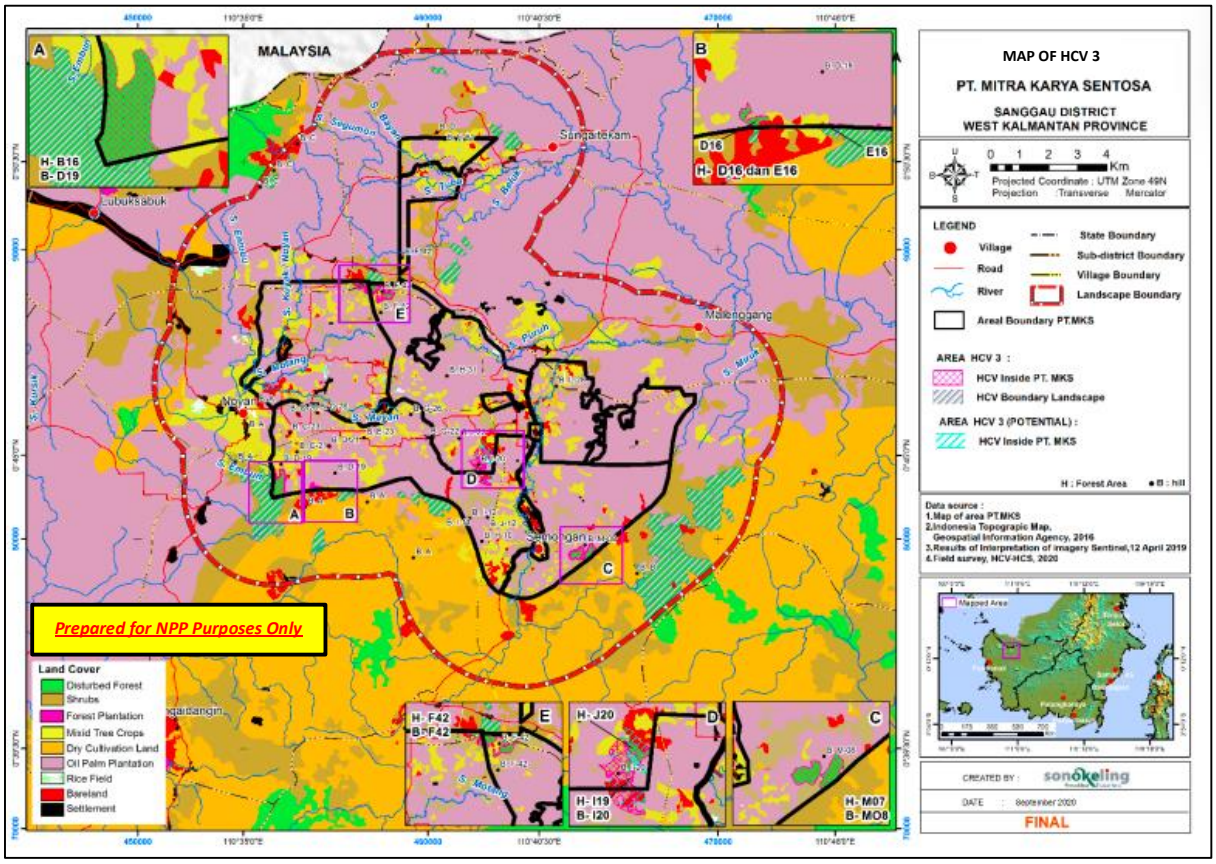


Figure 10. Map of Disribution HCV 3 Within and Around Permit Area PT MKS

HCV 4: Ecosystem Services in Critical Situations

HCV 4	Finding
Essential ecosystem services in critical situations include the protection of watersheds and the erosion of vulnerable soils and slopes.	**Present**

1. Management of extreme water flow events, including vegetated buffer zones or intact floodplains

This situation is found in water bodies in rivers and their borders. Based on the results of the initial inspection study and a complete assessment, in the licensed area of PT. MKS was found as many as 21 rivers and their borders, as well as 8 springs and their borders; while in the vicinity based on secondary data search there are as many as 20 rivers and their borders.

Within the permit area of PT. MKS has 9 rivers, with details: 7 rivers originate outside the permit area and 2 rivers originate within the permit area, and flow through the study area. In addition, around the permit area of PT. MKS found as many as 9 rivers. The width of the river body in the permit area of PT. MKS varies from 2 to 15 m. Referring to the Decree of the President of the Republic of Indonesia Number 32 of 1990 concerning Management of Protected Areas (Anonymous. 1990), rivers with a river body width of 30 m are set to have a minimum border of 100 m, while rivers with a river body width of less than 30 m are set to have a minimum border of 50 m. The rivers that are within the concession area of PT. MKS has never experienced a drought, in rainy season conditions it often overflows, but it recedes quickly so it doesn't cause flooding. The river is used as a place to find fish, toilets, and water transportation. Most of the river observation points show that the water is cloudy, except for some upstream rivers where the water is relatively clear. The river border has various conditions, ranging from secondary forest, shrubs, mixed rubber plantations, oil palm plantations, mining, open land, settlements, and rice fields.

2. Maintenance of downstream river flow regime

PT. MKS and its surroundings (within the landscape boundary) are located in the northern part of the Ketungau and Sekayam Sub-watersheds, so that all water bodies in this area still have the function of maintaining the downstream river flow regime, including river flow. The existence of rivers will naturally accommodate surface runoff, both runoff from upstream and from surrounding land. Changes in the shape and natural flow of the river will cause the concentration of flow to be shorter, resulting in an increase in water accumulation in the main river or increasing the risk of flooding downstream. The location of settlements located in the north or downstream also strengthens the importance of the existence of rivers as flood control areas. Therefore in and around the permit area of PT. MKS found HCV4.

3. Maintenance of water quality characteristics

This situation is found in all river borders which still have land cover in the form of secondary forest and shrubs. The presence of natural vegetation remaining on some of the river's borders serves as a filter for pollutants, both from land erosion and from residues of agrochemicals carried by surface runoff. Based on field observations during the initial inspection study and complete assessment, the physical quality of river water varies from clear to cloudy.

River borders naturally function as water quality maintainers; but in the permit area of PT. MKS found a river border that has been converted into oil palm plantations and mixed rubber plantations. Nevertheless, river border areas that have been degraded or have already been converted into cultivated land still need to be managed, even enhanced in order to support and maintain river water quality. Therefore, all riverbanks that have been degraded still have potential as HCV areas. Furthermore, river border management is also related to the obligations of the PT. MKS to maintain and protect rivers, especially with regard to environmental impact management. Besides that, it is also necessary to prepare SOPs or make procedures and rules for proper and strict waste disposal, and monitor the quality of river water regularly according to water quality standards, especially

regarding the limits of pollutant elements that are tolerated in the water according to existing regulations such as PP No. 82 In 2001, the installation of a sign prohibiting washing tools containing chemicals in the river was also important. Conduct socialization for the community not to throw garbage in rivers or waterways and avoid throwing household waste and chemicals carelessly.

In relation to the description above, it shows that in the area of the permit PT. MKS still found riverbanks that have land cover in the form of secondary dryland forest, so that HCV 4 exists; while riverbanks that have land cover in the form of oil palm plantations still have the potential as a buffer zone for water bodies, so that HCV 4 is potential.

4. Prevention and protection against land fires

Based on information from hotspot data for the period 2015, 2017, 2018 and 2019 (Source: http://firms.modaps.eosdis.nasa.gov), it is known that in and around the PT. MKS found a hot spot. Hotspots within the PT. MKS appeared in 2018 mostly in the north and in 2019 it was only found in the south. Nevertheless, the occurrence of land and forest fires must still be watched out for, especially during the extreme summer season as has occurred in recent years. In and around the PT. MKS was found to be a forested area that functions as a firebreak, but the condition is no longer possible to have the potential as a natural firebreak/natural firebreak. Around the permit area of PT. In MKS, there is one river that has the potential as a natural firebreak, namely the Kapuas River, which is located within the landscape boundary. There is no exact data on the width of the river that can act as a natural firebreak. At least a river that has a width exceeding the height of a tree is expected to act as a natural firebreak, and is supported by river border conditions with dense vegetation. Thus, there is a river that has the potential as a natural firebreak, namely the Kapuas River (70-150 m), so it is designated as HCV 4.

5. Protection of soil or aquifer

In and around the PT. MKS was found in locations that naturally had a low level of soil fertility, namely peat soil; however, no sandy soil was found, where land clearing, soil drying, use of heavy equipment or other forms of intensive land use could affect soil structure and fertility.

As previously explained, in and around the permit area of PT. MKS did not find fresh water swamps. According to Cassel (1997), wetlands (freshwater swamps and peat swamps) are important components of various ecosystems because they function to store flood water and improve water quality.

6. Provision of clean water, and vulnerable fisheries

As previously described, in the permit area of PT. MKS was found not only using water from wells but also using the river that flows through other villages; Noyan villages are the Noyan river, Mayan/Kembayan river, and the Motang river. Semongan Village, the river that flows through the village is the Gontu/Saih River, Malenggang Village uses the river that flows through the village, namely the Saih River, Sepan River, Miruk River and Jelutung River, and Tekam River Village which flows through the village namely Bayan River and Segumon River.

7. Natural ecosystems that play an important role in stabilizing steep slopes

In and around the PT. MKS did not find any barren or dry areas that tend to be prone to erosion and desertification. The altitude where the permit area of PT. MKS and its surroundings range from 20 – 211 m above sea level, so that there are no steep or mountainous areas in this area. There are 2 types of soil in the area, namely Podsolik Merah Kuning which is sensitive to erosion and Latosol which is somewhat sensitive to erosion. The annual rainfall for 10 years in the area is 3,348 mm and the annual rainy day is 182 days, so that the rainfall intensity in the area is 18.40 (low).

As previously explained, in and around the permit area of PT. MKS did not find fresh water swamp. According to Cassel (1997), wetlands (freshwater swamps and peat swamps) are important

components of various ecosystems because they function to store flood water and improve water quality.

Based on the calculation results, the level of erosion hazard (TBE) based on land cover in and around the PT. MKS is classified as Very low - heavy (4,29 – 416,75 tons/ha/yr) with details of each land cover including: Shrub (42,90 - 279,47 tons/ha/yr) Low – heavy, Secondary dryland forest (4,29 – 20,84 tons/ha/yr) Very low – low, Rubber plantations (28,83 – 145,86 tons/ha/yr) Low – moderate, Mixed plantations (28,83 – 195,63 tons/ha/yr) Low – heavy, Oil palm plantations (28,83 – 195,63 tons/ha/yr) Low – heavy, Dryland agriculture (180,49 – 395,91 tons/ha/yr)) Medium – heavy, Open land (85,80 – 416,75) Medium – heavy, and Settlements (85,80 – 189,99 tons/ha/yr) Medium – heavy.

8. Protection against wind, and regulation of humidity, precipitation and other climatic elements

Within the permit area of PT. MKS found 6 locations of forested areas, with a total area of 108,48 ha; while in the surrounding area, 20 forested areas were found, with a total area of 1.170,11 ha. The forested area in and around the permit area of PT. MKS can function as a climate regulator (protection against wind, and regulation of humidity, rainfall and other climatic elements).

9. Pollination services, for example exclusive pollination for subsistence food crops

One of the wildlife that functions as a provider of pollination services is birds. Birds that serve as natural pollinators come from the family Nectariniidae (honeybird species). According to (Sukmantoro et al., 2007), there are 24 species of honeybirds in Indonesia. In the permit area of PT. MKS found 4 species of birds including pollinators, namely the Ruby-cheeked sunbird (*Chalcoparia singlensis*), Brown-throated sunbird (*Anthreptes malacensis*), Olive-backed sunbird (*Cinnyris jugularis*) and Little spiderhunter (*Arachnothera longirostra*). The four bird species were found in secondary dryland forest, scrub and mixed rubber plantations.

In connection with the foregoing, it can be concluded that in and around the permit area of PT. MKS found HCV 4 covering an area of 6.101,90 ha. The total area of HCV 4 within the PT. The MKS area is 937,26 ha, while the total area of HCV 4 around it is 5.164,64 ha.

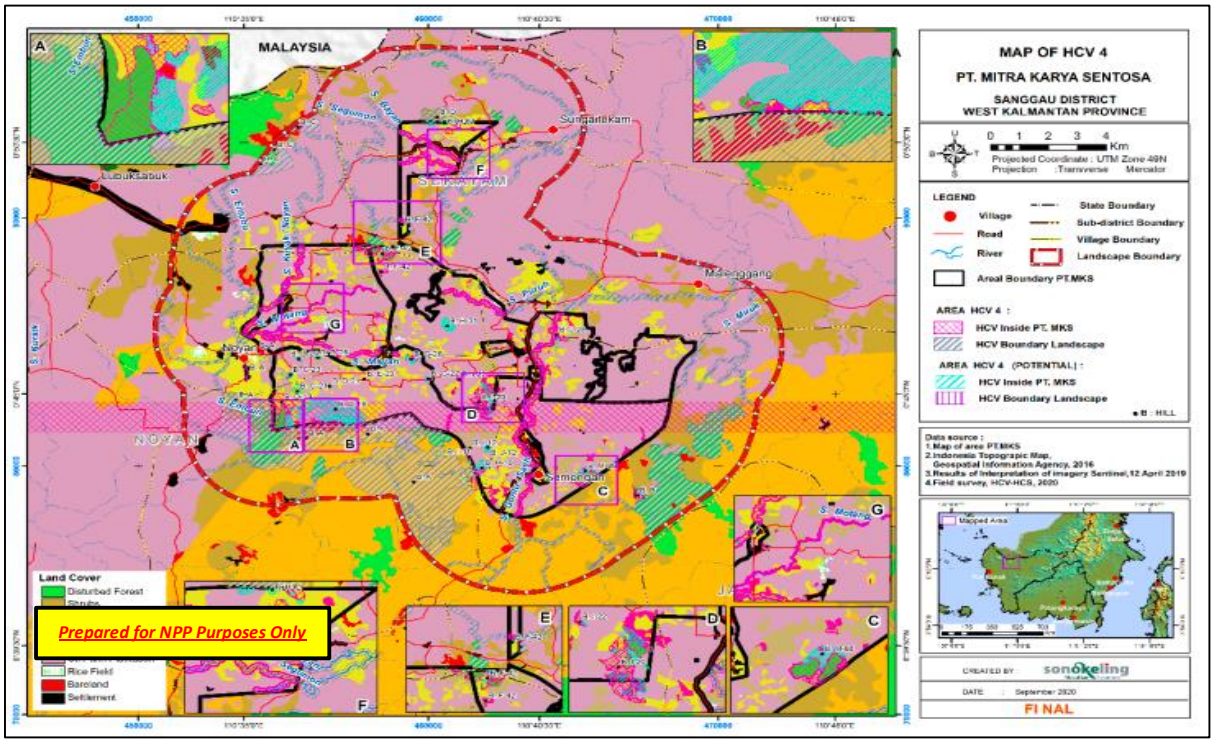


Figure 11. Map of Distribution of HCV 4 Within and Around of Permit Area PT MKS

HCV 5: Basic Needs of Local Communities

HCV 5	Findings
Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for livelihoods, health, nutrition, water, etc.), identified through engagement with these communities or indigenous peoples	**Present**

In the HCV Identification Common Guide (HCVRN, 2013), a situation that indicates the possibility of HCV 5 is indicated is an area with difficult access to health centers or hospitals; most houses and household appliances are made from traditional / locally sourced materials; limited / lack of water and electricity infrastructure; the community has a low capacity to accumulate wealth (living to meet daily needs); agriculture and animal husbandry are carried out on a small or subsistence scale; the presence of indigenous people who hunt and gather; the presence of permanent or nomadic shepherds; hunting and/or fishing are essential sources of protein and income; and food obtained from the wild constitutes a large part of the diet, either throughout the year or only in critical seasons.

1. Hunting and trapping land

Based on the results of FGDs and interviews with the community, it was shown that hunting activities were rarely carried out by people in Semongan, Noyang, Malenggang and Sungai Tekam villages who lived around the PT. MKS. Hunting and trapping activities are currently carried out only to fill spare time during work holidays. Hunting areas are generally outside the permit area of PT. MKS. For the residents of Noyan village, hunting is one way to fulfill protein, even though the percentage of hunting results is very small and is usually done occasionally when protecting fields or gardens from pests. Some types of game animals include squirrels, wild boars, rats and so on. For the residents of the village of Noyan who are Muslim, the prey in the form of wild boars is usually left after being hunted. This is because there is a prohibition according to Islam to consume pork. However, this wild boar is still being hunted because it becomes a nuisance to people's fields and gardens. Considering that there are many fields and community gardens outside the permit area of PT. MKS, besides that, the game animals that residents usually look for are currently shifting outside the permit area of PT. MKS, so generally hunting is carried out outside the PT. MKS.

Apart from hunting results, the main protein needs are obtained from buying and cultivating both meat and fish protein needs. In meeting current protein needs, the types of animal protein consumed by the surrounding community are meat, pork, chicken, duck, goat and beef. Most of the fulfillment of animal protein needs is obtained by buying at the market, stalls around the village or traveling traders. Then the others are obtained from cultivation, while the types of animals that are cultivated are usually livestock such as poultry such as chickens and ducks or ruminant types such as cows, goats and pigs. Therefore, in and around the study area there is no hunting and trapping area that meets the requirements for HCV 5.

2. NTFPs (non-timber forest products)

Based on the results of FGDs and interviews with communities in the study villages, it was shown that non-timber forest products used by communities living around the PT. MKS is rattan as woven material and honey taken from forested areas. Even then, the harvesting area is usually anywhere and mostly taken from near community gardens or around community gardens. both in the villages of Noyan, Semongan, Sungai Tekam and Malenggang, there are still residents who use NTFPs in the form of rattan and honey. This rattan wicker is found mainly in the villages of Noyan, Semongan and Sungai Tekam. Tools made of rattan are generally in the form of bags and slings used to carry garden produce and firewood from the garden or fields. This rattan is also used as a decorative rope for machetes (especially sabers) used by residents of each village. Meanwhile, the next generation prefers to use factory-made backpacks or carry garden products by tying them up or putting them in sacks. Therefore, in and around the study area, there are no specific areas that are used to fulfill non-timber products that qualify as HCV 5. Even if there are, these goods can be replaced with other goods (substitute goods).

In general, the community around the PT. MKS relies a lot on medical drugs compared to traditional medicine. This is influenced not only because it is quite easy to access health facilities, but also because people feel that consuming this medical drug is more practical and faster than using traditional medicine. Health facilities and stalls/shops selling chemical drugs are generally more common in Noyan village. Based on the information obtained, that if there are residents who are sick they will seek treatment at health facilities around the village in the form of a sub-health center (pustu) or village polyclinic (polindes), but those who require further treatment will be taken to the Community Health Center (Puskesmas) which in the sub-district city or even in Sanggau.

In addition, there are also residents who still rely on traditional medicine to treat their health problems even though the numbers are very limited. They use these traditional medicines because they believe that the use of herbal medicines is healthier or only for first aid, before getting medical treatment. Based on the information obtained, the traditional medicines they usually consume are in the form of herbal plants or herbs. They get herbs or herbs from the cultivation of garden plants or those that have been sold in various markets or stalls around. These herbal medicinal plants are often found around the village residents' yards, especially in Semongan Village, Tekam River and Noyan Village. Therefore, in and around the study area, there is no land that is used by the community to meet non-timber forest products in the form of medicines that meet the requirements for HCV 5.

3. Fuels

Communities in the villages around the PT. MKS, both in Semongan, Noyan, Sungai Tekam and Malenggang villages, mostly use LPG gas as the main fuel for cooking or other types of activities. The use of LPG gas is generally found in the villages of Noyan and Malenggang. This is because the two villages have very easy access to LPG gas (besides being close to the sub-district capital, road/transportation access in these two villages is the easiest and best). The use of LPG gas in the four study villages is mostly used because access to LPG gas sales is quite easy and residents find it easier to use this fuel compared to other fuels, such as wood. In general, this LPG gas is sold at a price of Rp. 30.000 to Rp. 40.000,- / gas cylinder 3 kg. Usually this LPG gas is sold at several shops or stalls nearby, so that residents will easily get the LPG gas. However, there are still a small number of other residents who still use firewood as an alternative. One of the reasons is because there are residents who are afraid to use LGP gas. In addition, firewood is used for party events / gadgets. Firewood can generally be obtained by taking from the fields or gardens of residents and yards around their homes. Based on this condition, it can be concluded that the surrounding community no longer relies on the PT. MKS in meeting the fuel needs it needs in daily life. This indicates that there is no area related to the fuel source that meets the criteria as an HCV 5 area.

4. Building Materials

The fulfillment of the need for wood materials for community houses is generally obtained by buying and other materials from the remaining forests or their own fields/gardens. The price of local/mixed wood species is around Rp. 1.500.000, - to Rp. 2.000.000,-/m3. The better the quality of the wood, the more expensive the price usually reaches Rp. 4.000.000,-/m3. Based on the results of direct observations in the field, the use of wood for building materials is still needed by the community and is quite important. Even most of the residents' housing is still made of wood, especially in the villages of Semongan and Sungai Tekam. Other villages, namely Noyan and Malenggang, in these two villages access to building materials other than wood is quite easy to obtain. So that in these two villages the use of wood for house materials has begun to decrease and each house is generally built with materials that can be purchased or obtained from local building or building materials stores. Some residents chose to replace the raw materials for building houses, which initially consisted of more wood, by using bricks, adobe blocks and/or mild steel. Likewise, most of the household equipment needs are obtained by buying at markets, shops or traveling merchants around their area. Furniture and household appliances are generally made of industrial products such as iron, copper, aluminum, glass/glass and plastic.

As for boats, in some villages in the study area there are still those that use them for fishing or transporting produce that is not or difficult to transport by land. Residents who still use boats are generally residents who live around the big river, such as residents of Noyan village. The existing boats are generally made or bought at a price of around IDR 2,000,000 to 8,000,000 / boat depending on the size of the boat. However, within the permit area of PT. MKS did not find a location that was used as a source of building materials that met the criteria for HCV 5.

5. Seasonal Animal Feed and Herding

Some types of pets that take feed in the form of grass or leaves from the natural environment include goats and pigs. The livestock are released in the wild in the area of the yard and the residents' own fields/gardens during the day and some are even released in the area of the PT. MKS (especially for villages whose residential locations are very close to the company's area, such as Noyan and Sungai Tekam villages or whose settlement areas are located within the PT. MKS permit area, such as Semongan village), while in the afternoon the pets will be kept in cages. As for the village of Malenggang where the location of the settlement is far from the permit area of PT. MKS, then there is no dependence at all to obtain animal feed from within the PT. MKS. The results of this cultivated livestock are partly intended for own consumption, but some are also for sale. Other types of livestock that are also found in the villages around the PT. MKS is a type of poultry (chicken and duck/manila). These animals are kept as one of the community's additional livelihoods and almost all residents in every village have pets, both poultry and other animals such as pigs and goats. The need for animal feed can still be met in every village both during the rainy season and during the dry season. Based on the results of interviews, FGDs and observations, there are still a small number of people who use their gardens/fields or yards within the PT. MKS as a special location used by residents as a source of fulfillment of animal feed, these residents are residents whose residences are within the permit area of PT. MKS, especially Semongan village, where apart from settlements, gardens and fields that have residences in them (cottages) make the area a special place for raising livestock. The land to obtain animal feed is located near the river (located around the river border) which is close to settlements, gardens and people's fields and flows through the permit area of PT. MKS include the Bayan, Gontu/Saih, Mayan and Segumon rivers. However, only a small number of residents are still looking for animal feed in the PT. MKS. Thus in the permit area of PT. MKS has a special area or area that is used to obtain animal feed that meets the requirements as an HCV 5 area.

6. Important Water Sources for Drinking and Sanitation

Water is a necessity that must be met at all times. This is due to the many activities of residents related to the use of water. Based on the results of interviews with the village community around the PT. MKS, it is known that they always use clean water for various daily needs, such as drinking, cooking, bathing, washing and toileting. To meet the consumption water needs, most people use springs that are stored and channeled through pipes to every house where these springs are outside the PT. MKS. In addition to springs, residents also use wells (bore wells/pumps) or rainfed and only a small number of people choose to buy refilled water for consumption water which costs around Rp. 5.000,-/gallon. During the long dry season, several villages in or around the PT. Many MKS use river water for their clean water needs and for toilets. The rivers used are located within the permit area of PT. MKS, some are outside the permit area of PT. MKS. As for the river used and located within the permit area of PT. MKS include the Noyan River (used by residents of Noyan Village), Mayan/Kembayan River (used by residents of Noyan Village), Saih/Gontu River (used by residents of Malenggang Village and Semongan Village), Bayan River (used by residents of Sungai Tekam Village), the Segumon River (used by the residents of Sungai Tekam Village), Sungai Beluk (used by the residents of Sungai Tekam Village), the Tuba River (used by the residents of Sungai Tekam Village), and the Motang River (used by the residents of the Sungai Tekam Village). Noyan) for drinking, cooking and toileting water. Meanwhile, other rivers used by residents for drinking, cooking and toileting water needs that are outside the permit area include the Mojuk River (used by residents of Noyan Village), Miruk River (used by residents of Malenggang Village), Sepan River (used by residents of Noyan Village). Malenggang Village), Jelutung River (used

by residents of Malenggang Village), Sengadah River (used by residents of Sungai Tekam Village), Jeriyan River (used by residents of Sungai Tekam Village), Kaloang River (used by residents of Sungai Tekam Village) , the Lentong River (which is used by the residents of Noyan Village) and several other rivers.

As previously explained, for the purposes of MCK, most people use springs, wells (pump drilled wells) or rain-fed and rivers, especially during the dry season. Most of these MCK facilities already exist in every resident's house, but some residents do not have one and still use the river. So far, the water needs for MCK residents around the permit area of PT. MKS is quite sufficient. Based on the explanation above, it can be concluded that in and around the permit area of PT. MKS contains areas that meet the requirements as HCV 5.

7. Goods that are interchangeable with other essential goods, or sold cash was used to purchase essential goods such as medicines or clothes, or to pay school fees

Most people buy daily necessities by selling palm fruit, rubber latex from other garden crops and from selling fruits from their gardens such as durian, rambutan, cempedak and others. This condition was experienced by the four study villages, namely Noyan, Semongan, Malenggang and Sungai Tekam villages. Others are workers on private plantations and use their wages to buy things they need. Based on the results of in-depth interviews with key informants, FGDs with community representatives from each village and based on observations, there were no areas that met the HCV 5 requirements in this regard (places to obtain goods that were exchanged for other essential goods, or sold). cash which is then used to buy essential items such as medicine or clothing, or to pay for school fees).

In connection with the foregoing, it can be concluded that in and around the permit area of PT. MKS found HCV 5 covering an area of 1.550,80 ha. The total area of HCV 5 within the PT. MKS area is 331,15 Has while the total area of HCV 5 around the permit area of PT. MKS area is 1.219,65 ha.

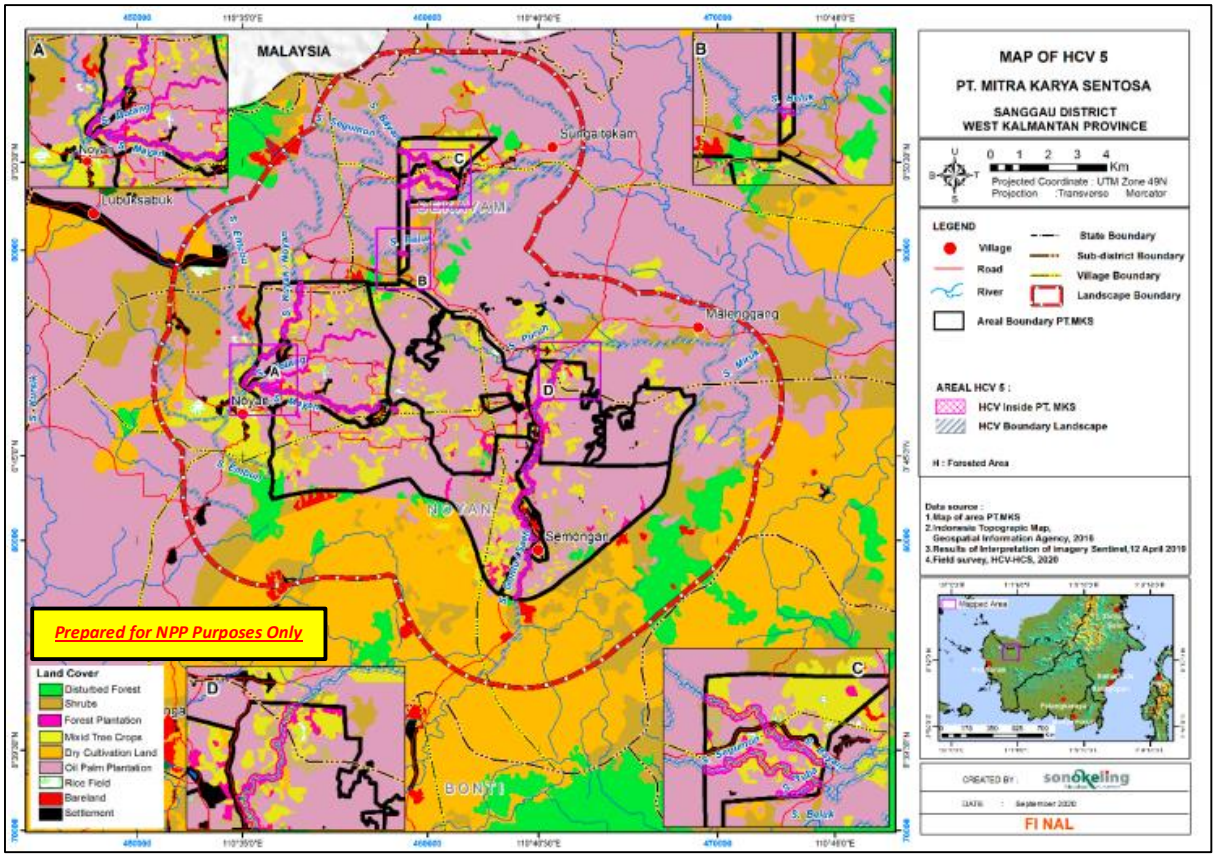


Figure 12. Map of Distribution of HCV 5 Within and Around of Permit Area PT MKS

HCV 6: Cultural Values

HCV 6	Findings
Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.	**Present**

In the HCV Identification Common Guide (HCVRN, 2013), it is explained that HCV6 is a site, resource, habitat, and landscape that has cultural, archaeological or historical significance at the global or national level and/or which has cultural, ecological, economic or religious interests / sacred which is critical for the traditional culture of the local community or indigenous people, which is identified through interaction/engagement with the relevant local community or indigenous people.

Based on the results of the desktop, FGD and interviews with the community, stakeholders in the study villages and field observations in the PT. MKS did not find sites known to have high cultural value in national policies and legislation, UNESCO world heritage sites, and plant or animal resources with totemic value or used in traditional ceremonies. However, in the area found sites of historical or cultural value that are recognized and important as well as religious or sacred sites, burial places that are believed to be eating ancestors from local communities or indigenous peoples. The distribution of cultural sites and sacred places in and around the permit area of PT. MKS as presented in Table 20.

Table 20. Distribustion of Social Sites Within and Arround of Permit Area PT MKS

No.	Sites Group	Name of Sites	Location	Within Permit	Around Permit
1	Sites that are recognized by national policy and legislation have high cultural value.	-	-	-	-
2	Sites that have official designations from national governments and/or international institutions such as UNESCO	-	-	-	-
3	Sites with significant historical and cultural values that are recognized, even if not protected by legislation	-	-	-	-
4	Religious or sacred sites, burial sites or traditional ceremonial sites that have an essential role for local or adat communities	Atok Pala Tujuh	Semongan Village	Present	-
		Tembawang Serabu (Kampung Lama)	Semongan Village	Present	-
		Pedagi Patung	Semongan Village	-	Present
		Pedagi Tangga	Semongan Village	-	Present
		Manta Parang (Rumah Tempa Desi)	Semongan Village	-	Present
		Pedagi Nyago	Noyan Village	-	Present
		Tembawang Guna	Sungai Tekam Village	Present	-
		Tungkup (Pendam)	Sungai Tekam Village	Present	-
		Lulung Bengris	Sungai Tekam Village	Present	-
5	Plant or animal resources with totemic value or used in traditional ceremonies	-	-	-	-
6	Tourism Area	-	-	-	-

Source: Primary Data Analysis Social Team, PT SAN 2019.

In connection with the foregoing, it can be concluded that in and around the permit area of PT. MKS found HCV 6 covering an area of 2,72 ha. The total area of HCV 6 within the PT. MKS which is 1,72 ha, while around the permit area of PT. MKS area of 1,00 ha.

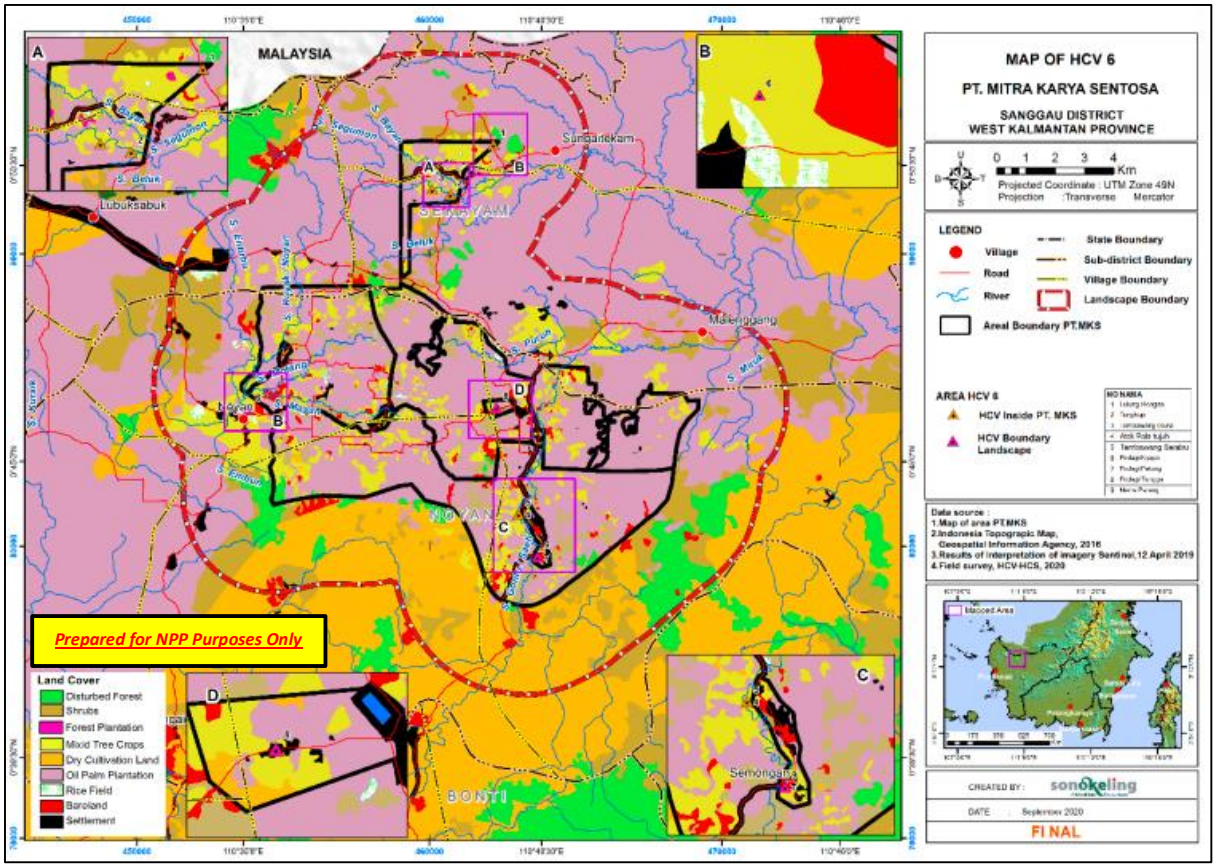


Figure 13. Map of Distribution of HCV 6 within and Around of Permit Area PT MKS

Stakeholder consultation is an important step in conducting the assessment. This consultation can take the form of interviews/FGDs with community representatives in the study villages, as well as interviews/discussions with relevant offices/agencies at the sub-district, district and provincial levels. This consultation was carried out in addition to the company, both during the opening and closing meetings, but also with the local district office and villages in the study area. When the consultation was carried out, basically every stakeholder at the district and village levels welcomed and supported this activity. Even when there was a difference of understanding during the FGD, the consultant participatively invited them to formulate conflict resolution that should be done. The trick is to bridge every desire of the community, the government and the company. This is because when the FGD was conducted, the consultant was accompanied by the company's public relations officer. The results of this discussion with the community were then conveyed to the company during the closing meeting to clarify and convey the temporary findings during the study. A summary of the results of interviews and discussions at the village level and related offices/agencies is presented in Table 21.

Table 21. Summary of interviews and discussions at the assessment stage

Summary Result FGD and Discussion with Community Noyan Village
Interaction type: *Focus Group Discution* (FGD). Participants : 1. Yentri (Village Secretary Noyan) 2. Jefri (KHead of Sub Village Noyan) 3. H. Thamrin, S (Melayu Customary Head/MABM/Tokoh agama) 4. Antonius Luet (Land owned/Farmer) 5. Sehabudin (Youth Leader/Land owned) 6. Marsiana Sopia (Head of Village Representative Body/Woman Leader) 7. Nurjanah (General Head Section/Woman Leader) 8. Yayan Roni (Youth Leader/Staff PT. MKS) 9. Napur (Staff PT. MKS) 10. Salvianus (GA PT. MKS)

11. Rudi Riana (Kandir FR Pontianak)
12. Sholihudin (FR Jakarta)

Result of interview and discussion with Noyan Village Community

- Part of the village area is within the HGU area of PT. MKS. For the villages in this village, the area is adjacent to the HGU area of PT. MKS with the closest distance from the village + 100 meters.
- The village community basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. MKS in collaboration with PT. SAN because this activity is also considered very beneficial for the community.
- The main livelihoods of the community today are plantation farmers with the main commodity of rubber, pepper and oil palm and field farmers with the main commodity of rice. Meanwhile, residents who work in the company PT. MKS is only around +20% with the general position being BHL (Free Daily Workers). Other livelihoods are construction workers, traders, teachers, honorariums and so on.
- In meeting their basic needs, the community is not only provided with natural products and plants on their land, they also buy from stalls/shops around the village or buy directly from the nearest market, namely Balai Karangan, which is 1 hour away.
- The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields or rice fields (50%) and buying (50%).
- The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. This is because in addition to residents who usually have fruit trees in their family and private gardens, they are also accustomed to growing vegetables to meet the basic needs of their families, which are intercropped with rice plants in the fields and rice fields.
- There are rice fields in the Noyan village area.
- Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (30%).
- Types of fishing gear used by residents to catch fish include traps, fishing rods, water guns, longlines, trawls or nets.
- Several types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and goats.
- For the types of animals that are hunted, such as squirrels, wild boars, rats and so on.
- Hunting and fishing activities are carried out only as hobbies.
- Types of fish caught include catfish, tempalau, red fish, toman, cork, starch, baung, seluang, shrimp, tilau and others.
- The types of game obtained include squirrels, rats, pigs, deer, civets, deer/deer, jungle cats and perpung (field snakes).
- To meet the need for clean water, especially for drinking, villagers usually suffice it by using dug wells, around their houses, springs around the village (Dew springs) which are used by residents of Noyan and Entubu hamlets, and when the dry season arrives they use river water. Noyan is good for toilets and as a source of drinking water.
- As for the MCK, apart from using water from wells (bore wells) they also use rivers that flow through the village, namely the Noyan River, Mayan/Kembayan River, and the Motang River.
- To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.
- For the need for wood in building houses and making household utensils, in general there are still many who take it from the forest or their gardens, both those outside the PT. MKS as well as those in the HGU PT. MKS. However, taking this wood is subsistence or only for personal needs where the felling is still selective. Only a small number of residents take wood inside the PT MKS HGU (Only those who still have cultivated areas inside have not been released by the company).
- Most of the people in this village use LPG for cooking (80%). However, the use of firewood is still carried out (40%), where this firewood is obtained from around the house and in community gardens or fields both inside and outside the PT. MKS. The use of firewood is also generally used when residents will hold a thanksgiving party or "gawai".
- The residents of Noyan village still use herbal medicines as an alternative to chemical medicines, where because the residents' access to chemical medicines is quite difficult, many of them still use herbal medicines obtained from inside and outside the HGU PT. MKS. The types of medicinal plants commonly used include bamboo starfruit, pasak bumi, hook roots and others.
- There are still residents who take animal feed such as grass and tubers from within the HGU area of PT. MKS (10% to 20%) .
- To meet the need for cash obtained from nature, residents obtain it by working to find rattan or honey (currently there are limited workers in that field), farmers in rubber or oil palm plantations, farmers for pepper and other garden products such as fruit. The proceeds from the sale of these commodities will generally be spent to obtain necessities staples such as rice, fish, and other basic needs. Some residents also work as company employees (20% work as employees at PT. MKS) both PT. MKS and other companies.
- The indigenous tribe of this village is the Iban Dayak. Other tribes in this village are the Malay, Javanese, Chinese, Batak and NTT tribes.
- Sacred places in this village include:
  - Pedagi Nyago in the hamlet of Noyan which is located outside the HGU area of PT. MKS.
- Other places that are also considered important by residents and have cultural values include graves in several

hamlets and located outside the PT. MKS.

- In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. MKS. These types of plants include bamboo, betel, areca nut, coconut leaves, kepuak and less stems (used to carry corpses).
- The GRTT process has been carried out in Noyan village since 2008 at a price of Rp. 60,000, - up to Rp. 100,000,-
- The price of GRTT increased because of initial resistance from the villagers. The next price will be Rp. 700,000, -/Ha up to Rp. 1,000,000,-/Ha.
- In 2019 to Rp. 10,000,000,-/Ha.
- Residents do not agree that HCV-HCS activities will be carried out if later the results of the study show that the area of residents who entered the HCV-HCS location but was not released.
- Issues that are developing in the community include:
  - The issue of environmental pollution, especially river water where the river is polluted due to company waste (noyan river water turns yellow).
  - Transportation routes are getting better.
  - Agricultural land is getting narrower so that it can cause food insecurity.
  - The issue of company plasma, which has been around for 11 years, has yet to be clarified to the public. whereas in the past the promise would be for the welfare of the community (plasma pattern is 75:25).
  - Low bailout funds that do not meet the needs of residents.
  - Low acceptance of workers from the local area despite the initial promise to prioritize local workers.

Summary Result FGD and Discussion with Community Noyan Village

Interaction Type: Final Public Consultation.

Participant: Paulus Ulna (Head of Plasm Cooperation "Medep Bauh" collaboration with PT. MKS)

Result of discussion:

Concern & Main Recommendation:

Concern:

- There is a concern that the plasma land will decrease and there will be no replacement from the company.
- The results of this study are only a study and there is no actual application in the field according to the results of the study.

Main Recommendation:

- To immediately provide the results of the study and the extent of the results of the study, especially the HCV areas which based on the map appear to be within the planned plasma area so that we can immediately negotiate with the company.
- In several villages, especially Noyan and Semongan, there are rice fields in the company's HGU area, so that the rice fields are inclave or removed from the study area because these areas are areas where residents meet their carbohydrate needs (rice/paddy).
- After this study is carried out and it is known that there are HCV/HCS locations, what will be done next and if the company violates the HCV rules, what are the sanctions? We don't want this to be just a study without any actual application in the field. We hear and see how good and good this study is, but if it is not carried out it will be very useless.

Response from the Assessor Team:

- We conducted a study mainly within the company's HGU area according to the HGU map provided to us. As for finding land inside or outside the land designated for plasma, it can be discussed directly with the company together with plasma participants/representatives.
- Actually, some experts say that rice fields are included in the area that must be considered as a provider of carbohydrates for residents. Therefore, there will be special attention to rice fields so that the precautionary principle is applied there and maintained so that it remains sustainable and can provide benefits for residents as providers of carbohydrates.
- Of course there will be conservation of HCV areas and if the company violates the existing rules, it will be punished according to what the company has done up to the revocation of the RSPO certification permit so that the company cannot participate in selling its products outside.

Summary Result FGD and Discussion with Community Noyan Village

Interaction Type: Final Public Consultation.

Participant: Marsiana Sopia (Head of Village Representative Body)

Result of Interview and Discususion:

Concern & Main Recommendation:

Concern:

- Considering the plasma cooperation with the company PT. MKS has an agreement and has been running for a long time, but there has been no explanation so far regarding the lifting of plasma loans that are collaborated with plasma members, we are worried that this problem will continue and there is no certainty until this collaboration ends.

- Many residents of Noyan village still use water from the river that flows through the company's permit area, there are concerns from residents that the river will be polluted due to company activities.

Main Recommendation:

- We hope that the company will immediately provide an explanation regarding the credit value that is the responsibility of the plasma cooperative members and related to the plasma profit sharing that the community can begin to accept.
- There is good cooperation between the company and the community in protecting the environment, especially the rivers that are used by residents around the company.
- Residential areas and plantations are expected to be removed from the HGU so that the PTSL or Prona program can be proposed

Response from Assesor Team:

- For matters related to the existence of residential areas or gardens or rice fields within the permit area of PT. MKS and related to plasma cooperation between plasma cooperatives (cooperative members) and the companies mentioned above, should be discussed with the company and find the best solution.
- Of course there will be conservation of HCV areas and if the company violates the existing rules, it will be punished according to what the company has done up to the revocation of the RSPO certification permit so that the company cannot participate in selling its products outside. Good cooperation between the company and the community is very important to achieve success in protecting the environment, especially rivers that are used by residents.

Summary Result FGD and Discussion with Community Noyan Village

Interaction Type: Final Public Consultation

Participant: A. Anggui (Customary Leader)

Result of Interview and Discususion:

Concern & Main Recommendation:

Concern:

- As explained by the head of the BPD of Noyan village, more or less the concern of the residents, especially the cooperative members, is the large amount of plasma credit that must be paid off by plasma members and there is no explanation about it from the company causing residents to worry that they will not be able to pay off and not get profit sharing. on the plasma in collaboration.

Main Recommendation:

- We are waiting for an explanation from the company regarding the clarity of the status of plasma that is being cooperated by the community and the company, considering that this collaboration has been going on for a long time until now.
- Sacred forests, sacred places and places indicated to have HCV/HCS values are expected to be given a sign/board with information on the presence of HCV/HCS.
- There is good communication between the company and the community in protecting the environment and others.

Response Assessor Team:

- We are very grateful for the advice in providing signage for places indicated by HCV/HCSA. Of course we will recommend this to the company.
- Regarding plasma issues, the company may be more entitled to answer them.

Summary Result FGD and Discussion with Community Semongan Village

Interaction Tyoe: *Focus Group Discution* (FGD).

Participants:

1. Marius (Head of Village)
2. Aloman (Community Leader)
3. Gunawan (Youth Leader)
4. V. Suanto (Community/Land owned)
5. Martinus Nur (Community Leader/Religion Leader)
6. Sopetrus Soviski (Customary Leader)
7. Yohanes Cibol Community fishing man)
8. Sabina Susi (Woman Leader)
9. Wanti (Member of PKK)
10. Suparjo (Community Leader)
11. Salvianus (GA PT. MKS)
12. Rudi Riana (Kandir FR Pontianak)
13. Sholihudin (FR Jakarta)

Result of Interview and Discussion

- Semongan Village is located right inside the HGU area of PT. MKS.
- The village community basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. MKS in collaboration with PT. SAN because it is seen as very helpful for the community around the company.

- The main livelihoods of the community today are garden and field farmers and rice fields. Some residents become employees in the company PT. MKS (20%), the rest are employees in other companies, traders, honorariums and others.
- The majority religion in this village is Catholic Christianity (90%) while the rest are Protestant Christianity and Islam.
- In meeting their basic needs, the community is not only provided with natural products and grows on their own land (fields and rice fields), also buys from stalls or shops around the village or buys directly from the nearest market, namely at Balai essay.
- The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting fields and rice fields and buying (50%).
- There are approximately 38 hectares of rice fields located within the HGU area of PT. MKS, which are productive rice fields, are cultivated by residents based on community narratives.
- The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. This is because in addition to residents who usually have fruit trees in their family and private gardens, they are also accustomed to growing various types of vegetables to meet the basic needs of their families, which are intercropped with rice plants in the fields.
- Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (60%).
- Several types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and goats.
- The types of animals that are hunted include pigs, mouse deer, porcupines, snakes, field snakes, frogs, tadung, labi-labi, rats, squirrels, kelebiau, ruai and so on.
- Hunting and fishing activities are carried out only as hobbies.
- To meet the need for clean water, especially for drinking, the villagers of Semongan usually suffice it by using drilled wells around their houses, some of which include springs from the Raja River, Gunung River springs, and Keraci River springs. Belau river springs, Serabu river springs and when the dry season arrives, they use the Gontu/Saih river water.Sedangkan untuk MCK, selain menggunakan air dari sumur juga memanfaatkan sungai yang mengalir melalui desa yaitu sungai gontu/saih dan beberapa anak sungai lainnya.
- Every source of water used by residents is protected by local customary law.
- To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.
- For the need for wood in building houses and making household utensils, in general there are still many who take it from the forest or their gardens, both outside and inside the PT. MKS. However, taking this wood is subsistence or only for personal needs where the felling is still selective.
- Most of the people in this village use LPG for cooking (80%). However, the use of firewood is still carried out (50%), where this firewood is obtained from around the house and in community gardens or fields both inside and outside the HGU PT. MKS. The use of firewood is also generally used when residents will hold a thanksgiving party.
- The villagers of Semongan still use herbal medicines as an alternative to chemical drugs. These herbal medicines are generally obtained from inside and outside the HGU PT. MKS. The types of medicinal plants commonly used include eucalyptus, yellow root, pasak bumi, matrawali and others.
- There are still residents who take animal feed such as grass and tubers from within the HGU area of PT. MKS (50%) .
- To get cash, people generally work as farmers in rubber, pepper and oil palm plantations and a small number of them become company employees at PT. MKS and other companies. Meanwhile, the use of non-timber forest products is currently limited, especially those who take rattan or honey.
- The indigenous tribe of this village is the bisomu Dayak. Other tribes in this village are Malay, Iban, Javanese, Sundanese, NTT, Bugis and Batak.
- Sacred places in this village include:
  - Pedagi tangga di dusun Pelaman raja (di luar HGU PT. MKS).
  - Pedagi patung di dusun semongan (di luar HGU PT. MKS).
  - Manta parang di dusun Semongan (di luar HGU PT. MKS).
  - Atok pala tujuh di dusun Emputih (di dalam HGU PT. MKS).
- In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. MKS. Types of plants commonly used for traditional ritual activities include sabang leaf plants, bamboo, betel, areca nut, lemongrass, basil.
- In addition, in each hamlet there are public and family cemeteries which are generally located close to settlements and roads.
- Land acquisition has been carried out by the company since 2008 and ended in June 2019.
- The value of Compensation for Growing Plantation in 2019 (last) reached Rp. 10,000,000,-/Ha for vacant land and Rp. 12,000,000,-/Ha for land that has plants growing on it.
- There is a communal tembawang (Tembawang Serabu which is a tembawang belonging to several villages with an area of up to + 4 ha) within the permit area of PT. MKS is based on the informant's narrative.
- There are rice fields that are used by residents as a means to meet the basic needs of carbohydrates in the HGU area of PT. MKS.
- Residents do not agree that HCV-HCS activities will be carried out if later the results of the study show that the area

of residents who entered the HCV-HCS location but was not released.

- Issues that are developing in the community include:
- Issues of environmental pollution, especially river water where the river is polluted due to company waste.
- Transportation routes are getting better.
- Agricultural land is getting narrower so that it can cause food insecurity.
- The issue of company plasma, which has been around for 11 years, has yet to be clarified to the public. even though in the past the promise would be for the welfare of the community.
  - Absorption of labor that has begun to be difficult.
  - Employees are forced to work not according to working hours.
  - CSR assistance is still limited (both health, education, infrastructure, etc.).
  - The bailout for plasma members is very small. The amount of this bailout is Rp. 100.000,-/hectare/month.
  - Land transportation routes are getting better with the company. But the waterway is now starting to die or not being used.
- • Community expectations include:
  - It is hoped that the residents will be given clarity about plasma as soon as possible, which has been running for eleven years since the start of land clearing. Considering that the palm oil in the plasma has been harvested for a long time.
  - Residents are given the convenience of getting a job in the company.
  - There is good cooperation and communication between PT. MKS with the community in terms of maintaining and preserving the environment, especially in maintaining the residents' water sources so that they are not polluted.

Summary Result FGD and Discussion with Community Semongan Village

Interaction type: Final Public Consultation.

Participant: Marius (Head of Village)

Result of Interview and discussion:

Concern & Main Recommendation:

Concern:

- The results of this study are limited to studies and have no application in the field. Therefore, it is requested that the results of this study be carried out as well as possible in the field.

Main Recommendation:

- Ask for places such as sacred places, springs, tembawang and others so that the residents together are properly guarded and that residential areas of residents who are still in or near the company's area are not disturbed and if possible removed from the HGU area so that we can apply for certification.
- Given that we still do not have a public graveyard, we hope that the company can assist us in providing public graves for our villagers. In fact, besides being included in the HCV area, there are also sacred places and the land is very suitable for public graves. We hope that tembawang serabu, apart from being taken care of together, will also be given as a place for the public graveyard of our residents.
- Then, for PKS factory waste, PT. It is hoped that the management of MKS will be given to our village government so that it becomes a government effort in order to increase our village fund income
- Selengkapnya tentang teks sumber iniDiperlukan teks sumber untuk mendapatkan informasi terjemahan tambahan.

Response Assessor Team:

Any recommendations or concerns are actually the right and responsibility of the company to answer them. However, we will make recommendations to the company in accordance with the expectations and wishes of the village head who represents the local residents.

Summary Result FGD and Discussion with Community Malenggang Village

Interaction Type: *Focus Group Discution* (FGD).

Participants:

1. Nunuk (Head of Village)
2. Elisabet Desi (Village Secretary)
3. A. Sulihan (Head of Village Reprentative Body)
4. Misa (Village Staf /Community Leader)
5. R. Sajai (Head of Customary)
6. Agustina Ojen M (Woman Leader)
7. Mardiana Liti (Village Health cadres)
8. Effendi (Fisherman)
9. Melania Yeni (Trader)
10. Sevinus Tiam (Hunter)
11. Salvianus (GA PT. MKS)
12. Rudi Riana (Kandir FR Pontianak)
13. Sholihudin (R Jakarta)

Result of Interview and Discussion

- Part of the land in Malenggang village is in the HGU area of PT. MKS.
- The community of Malenggang village basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities conducted by PT. MKS in collaboration with PT. SAN because it is considered profitable and not detrimental to the community.
- The main livelihoods of the community today are rubber, oil palm and pepper farmers, employees in the company PT. BTL, PT SISU and only about 5 people working at PT. MKS, the rest are traders, honorary and others.
- The majority religion in this village is Catholic Christianity (75%) while the rest are Protestant Christianity (5%) and Islam (20%).
- In meeting basic needs, the community is not only supplied with natural products and plants on their land, they also buy from stalls or shops around the village or buy directly from the nearest market.
- The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields and buying (65%).
- The fulfillment of the basic needs of vegetables and fruits, is almost the same as the fulfillment of the basic needs of carbohydrates. Residents usually have fruit trees in their family and private gardens, and they are also used to growing vegetables that are intercropped with rice plants in the fields.
- Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (60%). The fishing gear used includes traps, fishing rods, trawls and others.
- Several types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and goats.
- For the types of game animals obtained include deer, wild boar, deer and others.
- Hunting and fishing activities are carried out only as a hobby.
- To meet the need for clean water, especially for drinking, villagers usually suffice it by using drilled wells around the house and when the dry season arrives, they use water from the Saih river (flowing from the PT. MKS HGU area), the Miruk river (outside the PT MKS HGU) , the Sepan River (outside the PT MKS HGU) and the Jelutung River (outside the PT MKS HGU).
- The rivers used for fishing include the Saih River, the Sepan River, the Miruk River and the Jelutung River.
- As for MCK, apart from using water from drilled wells, they also use rivers that flow through the village, namely the Saih River, Sepan River, Miruk River and Jelutung River.
- To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.
- For the need for wood in building houses and making household utensils, they generally take from the forest or their gardens outside the HGU PT. MKS. Timber harvesting is subsistence in nature or only for personal needs where the felling is still selective. Most of the need for wood is done by buying from outside.
- - Most of the people in this village use LPG for cooking (80%). However, the use of firewood is still carried out (40%), where this firewood is obtained from around the house and in community gardens or fields both inside and outside the PT. MKS. The use of firewood is also generally used when residents are going to hold a thanksgiving party (only few or even almost no residents take firewood in the PT. MKS HGU area).
- - Villagers in Malenggang still use herbal medicines as an alternative to chemical drugs (30%). These herbal medicines are generally obtained from outside the HGU PT. MKS. The types of medicinal plants commonly used are the same as herbal medicines that are generally used by other villagers.
- - Almost no residents were found taking animal feed such as grass and tubers from within the HGU area of PT. MKS.
- - To get cash, people generally work as gardeners and company employees. Meanwhile, the use of non-timber forest products is currently limited, especially those who take rattan or honey in this area.
- - The indigenous tribes of this village are the Iban Dayak Sebaru Kedeh. Other tribes in this village are Javanese, Nias and Batak tribes.
- - Culture in land management by residents in the area is the same as other villages in managing land.
- - Sacred places in this village include:
- - Sandung found in every hamlet (outside the HGU PT. MKS).
- - In offering ceremonies or traditional ceremonies, there are several types of plants that are generally used and obtained from inside and outside the HGU area of PT. MKS. The types of plants are the same as in other villages.
- - Residents do not agree that HCV-HCS activities will be carried out if later the results of the study show that the area of residents who entered the HCV-HCS location but was not released.
- - Issues that are developing in the community include:
- Issues of environmental pollution, especially river water where rivers are polluted due to company work such as fertilizing waste that does not pay attention to the river environment and others. According to residents, the polluted river is the Saih River.
  - ✓ Agricultural land is getting narrower so that it can cause food insecurity.
  - ✓ The issue of company plasma which has been around for 11 years has not been clarified to the public. even though in the past the promise would be for the welfare of the community.
  - ✓ CSR assistance is still limited (both health, education, infrastructure, etc.).
  - ✓ The lack of employment from local residents at PT. MKS.
  - ✓ The positive impacts of the existence of the company include:

- ✓ The road that connects between villages and village access to several places is getting better.

- The negative impacts include:
  - ✓ Game animals and fish are reduced and difficult to obtain.
  - ✓ River water pollution (river water becomes cloudy).
  - ✓ People's agricultural land is getting smaller.
- The expectations of residents include:
  - ✓ It is hoped that the residents will soon be given clarity about the plasma which has been running for 11 years since the start of land clearing. Considering that the palm oil in the plasma has been harvested for a long time.
  - ✓ Residents are given the convenience of getting a job in the company.
  - ✓ Increased CSR assistance by companies such as assistance for health, education, infrastructure and other social activities in the community.
  - ✓ There is good cooperation and communication between PT. MKS with the community in terms of maintaining and preserving the environment, especially in maintaining the residents' water sources so that they are not polluted.

Summary Result FGD and Discussion with Community Malenggang Village

Interaction Type: Final Public Consultation

Participant: Nunuk (Head of Village)

Result of interview and discussion:

Concern & Main recommendation

Concern:

- None (only a small part of the Malenggang village area is included in the PT. MKS HGU)

Main Recommendation:

- Residential areas and plantations are expected to be removed from the HGU so that the PTSL or Prona program can be proposed

Response Assessor Team:

For this matter, it is better to discuss it with the company and find the best solution.

Summary Result FGD and Discussion with Community Malenggang Village

Interaction Type: Final Public Consultation

Participant: Yunardi Hatta (Customary Leader)

Result of interview and discussion:

Concern & Main recommendation:

Concern:

- None

Main Recommendation:

- Sacred forests, sacred places and places indicated to have HCV/HCS values are expected to be given a sign/board with information on the presence of HCV/HCS.
- Many residents are reluctant to pay PBB (Earth and Building Tax) especially for those who have settlements, gardens, or rice fields in the company's HGU, because they suspect that PBB has been paid by the company. Please clarify whether the PBB for residents who own land in the company's HGU area is paid by the company or must be paid by the residents.
- Regarding land/forest fires, we admit that many occur by the community. but we don't understand/know the rules that we should obey from the government or the company. Therefore, we ask for an explanation and assistance so that this does not always happen.

Response Assessor Team:

- We are very grateful for the advice in providing signage for places indicated by HCV/HCSA. Of course we will recommend this to the company.
- With regard to PBB, the company may be more entitled to answer it.
- It is very good if there is a formation of community groups concerned with fire and so on where the company can position itself as a companion and initiator of the institution of community groups concerned with fire. So as to minimize the occurrence of land fires both outside and around the company area.

Summary Result FGD and Discussion with Community Tekam Village

Interaction Type: *Focus Group Discution* (FGD).

Participants:

1. Hendrikus jumali (Head of Village)
2. Alpius Salun (Head of BPD)
3. A. Nunin (Community Leader/Fisherman)
4. Boing (Youth Leader/Hunter)
5. FL. Ain (Community Leader/TCustomary Head)
6. Vinsensius Nayat (Community Leader/Ketua RT 02)
7. Yohanes Suding (Village Customary Body)

8. Jhon Kenedi (Land ownde)
9. Melisa (Woman Leader)
10. Salim (Community Leader)
11. Marjoto (Farmer)
12. Salvianus (GA PT. MKS)
13. Rudi Riana (Kandir FR Pontianak)
14. Sholihudin (FR Jakarta)

Result of Interview and Discussion

- Part of this village area is included in the HGU area of PT. MKS (Dusun Guna Bandir).
- The village community basically accepted the HCV, integrated HCS, Soil survey, LUC and SIA assessment activities carried out by PT. MKS in collaboration with PT. SAN as long as it does not harm the community.
- The main livelihoods of the community today are farmers in gardens, fields and rice fields. Some of them are employees in the company PT. SISU, traders, honorary and others.
- The majority religion in this village is Catholic Christianity (90%) while the rest are Protestant Christianity and Islam.
- In meeting basic needs, the community is not only supplied with natural products and plants on their land, they also buy from stalls or shops around the village or buy directly from the nearest market.
- The main staple food of the community is rice (rice). This basic need for carbohydrates is met by planting in the fields, rice fields and buying (50%). Very few cultivate and cultivate paddy fields and are generally subsistence. This is because agricultural land began to narrow.
- The fulfillment of the basic needs of vegetables and fruits is almost the same as the fulfillment of the basic needs of carbohydrates. Residents usually have fruit trees in their family and private gardens, and they are also used to growing vegetables that are intercropped with rice plants in the fields.
- Residents usually fulfill their basic needs for protein from fishing in rivers, raising livestock, hunting and some of them buying (80%).
- Several types of animals that are kept or raised by residents are generally pigs, dogs, chickens, ducks and goats.
- For the types of animals that are hunted, they are generally the same as in other villages.
- Hunting and fishing activities are carried out only as hobbies.
- To meet the need for clean water, especially for drinking, the villagers of Sungai Tekam usually suffice it by utilizing drilled wells around their homes and nearby river water that flows through community settlements including the Bayan River, Segumon River, Beluk River, Jeriyan River, Saadah Springs, the Kaloang River and the Tuba River.
- The rivers used for fishing include the Bayan River, the Segumon River, the Beluk River, the Kaloang River and the Tuba River.
- As for MCK, apart from using water from wells, the river that flows through the village is the Bayan River and the Segumon River.
- To fulfill clothes, 100% of the residents fulfill them by buying from traders who come to the village, markets or shopping places in the village.
- For the need for wood in building houses and making household utensils, they generally take from the forest or their gardens that are outside or inside the HGU PT. MKS. Timber harvesting is subsistence in nature or only for personal needs where the felling is still selective. Most of the need for wood is done by buying from outside or replacing it with other materials such as concrete, mild steel and others.
- Most of the people in this village use LPG for cooking (85%). However, the use of firewood is still carried out (50%), where this firewood is obtained from around the house and in community gardens or fields both inside and outside the HGU PT. MKS. The use of firewood is also generally used when residents will hold a thanksgiving party.
- Residents still use herbal medicines as an alternative to chemical drugs (25%). These herbal medicines are generally obtained from inside and outside the HGU PT. MKS.
- There are still residents who take animal feed such as grass and tubers from within the HGU area of PT. MKS (5%) .
- To get cash, people generally work as plantation farmers and company employees. Meanwhile, the use of non-timber forest products is currently limited, especially those who take rattan or honey in this area.
- The indigenous tribe of this village is the Iban Dayak. Other tribes in this village are Malay, Javanese, Batak and Flores.
- Culture in land management by residents in the area is the same as in other villages in managing land.
- Sacred places in this village include:
  - Tungkup (Pendam).
  - Tembawang guna.
  - Lulung bengris.
- The community does not agree that the HCV-HCS activities will be carried out if later the results of the study show that the area of the residents who entered the HCV-HCS location but was not released.Isu yang berkembang di masyarakat diantaranya adalah :
  - The issue of company plasma, which has been around for 11 years, has yet to be clarified to the public. even though in the past the promise would be for the welfare of the community.
  - The issue of the lack of employment by PT. MKS.
  - The issue of overlapping community lands.
  - CSR assistance is still limited (both health, education, infrastructure, etc.).

- There is no official letter (a cooperation agreement between the land owner and the company) from the company even though the land cultivation has been carried out for a long time.
- There are unlawful acts committed by company personnel where there are allegations of falsification of land handover documents from residents, causing protests from land owners.
- The process of eviction of land without permission and without going through land compensation first to the land owner so that several times the company received warnings and customary fines (nominal fines ever received between Rp. 1,000,000, - to Rp. 140,000,000, -) .

- The positive impacts of the existence of the company include:
  - The road that connects between villages and village access to several places is getting better.
- The negative impacts include:
  - Residents' agricultural land is getting narrower.
- Citizens' expectations include:
  - It is hoped that the residents will soon be given clarity about the plasma which has been running for 11 years since the start of land clearing. Considering that the palm oil in the plasma has been harvested for a long time.
  - Immediate administration of letters for plasma participants.
  - Residents are given convenience in obtaining work in the company with wages that follow the wages in general.
  - Increased CSR assistance by companies such as assistance for health, education, infrastructure and other social activities in the community.

Summary Result FGD and Discussion with Community Sungai Tekam Village

Interaction Type: Final Public Consultation

Participant: Hendrikus Jumali (Head of Village)

Result of interview and discussion:

Concern & Main recommendation:

Concern:

• Not yet, considering the business activities of PT. MKS in Sungai Tekam village is still limited for now.

Main Recommendation:

- Residential areas and gardens are expected to be removed from the HGU so that the PTSL or Prona program can be proposed and residents can use both for settlements and land to meet the basic needs of the community.
- Areas indicated by HCV are expected to be well conserved and hopefully this document will not only serve as a supporting document for company certification, but also be realized in the field according to the results written in the report.

Assessor Response:

- For this matter, it is better to discuss it with the company and find the best solution.
- Of course there will be conservation of HCV areas and if the company violates the existing rules, it will be punished according to what the company has done up to the revocation of the RSPO certification permit so that the company cannot participate in selling its products outside. Good cooperation between the company and the community is very important to achieve success in protecting the environment, especially rivers that are used by residents.

Summary Result Interview and Discussion with Community Sungai Tekam Village

Interaction Type: Final Public Consultation

Participant: Alpius Salun (Head of BPD)

Result of interview and discussion:

Concern & Main recommendation:

Concern:

- There have been problems related to land between the company PT. MKS with local villagers who own land in the PT. MKS. However, this problem has been resolved amicably. Due to these problems, some residents are currently worried that land problems will occur again if the company resumes land acquisition activities in the community.
- Due to the business activities of PT. MKS in Sungai Tekam village is currently still limited, so there are still limited concerns.

Main Recommendation:

- It is hoped that there will be socialization beforehand from the company to the community before carrying out business activities in the Sungai Tekam Village area.
- Establish good cooperation with the villagers of Sungai Tekam and always involve the government and local customary institutions in solving problems in the community related to the business activities of PT. MKS.
- Always resolve problems with family deliberation.
- Residential areas and gardens are expected to be removed from the HGU so that the PTSL or Prona program can be proposed and residents can use both for settlements and land to meet the basic needs of the community.
- Areas indicated by HCV are expected to be well conserved.

Assessor Response :

- For matters related to the existence of residential land, gardens and rice fields that are in the permit area of PT. MKS should be discussed with the company and find the best solution.
- Of course there will be conservation of the HCV areas found within the PT. MKS which is included in the administrative area of Sungai Tekam village.
- Responding to concerns related to the emergence of land problems within the company's permit area, the company must always carry out a Land Tenurial Study where this study can continue to be carried out and deepen and follow up on the results of social impact studies in order to resolve any problems that occur in the community. It is very good if the good cooperative relationship between the company and the village community is maintained properly.

Summary Result Interview and Discussion with Community Sungai Tekam Village

Interaction Type: Final Public Consultation

Participant: H. Martinus (Customary Head)

Result of interview and discussion:

Concern & Main recommendation:

Concern:

- Every question, concern or recommendation has actually been explained by the PLT. Head of Village and Head of BPD. It was just explained earlier that there are several sacred places in Sungai Tekam village which are included in the permit area of PT. MKS. The company is very worried that these places will be evicted by the company when the LC (Land Clearing) is carried out again, there is no sign of HCV notification or there is no commitment to protect the area indicated by HCV.

Main Recommendation:

- Sacred forests, sacred places and places indicated to have HCV/HCS values are expected to be given a sign/board with information on the presence of HCV/HCS.
- There is good communication between the company and the community in protecting the environment and others.
- It is hoped that there will be socialization beforehand from the company to the community before carrying out business activities in the Sungai Tekam Village area.
- Establish good cooperation with the villagers of Sungai Tekam and always involve the government and local customary institutions in solving problems in the community related to the business activities of PT. MKS.

Response Assessor Team:

- We are very grateful for the advice in providing signage for places indicated by HCV/HCSA. Of course we will recommend this to the company.
- Of course there will be conservation of the HCV areas found within the PT. MKS which is included in the administrative area of Sungai Tekam village.

Summary of Interview Results and Discussions with the Sanggau District Environmental Service

Interaction Type : Indepth Interview

Participant : Deny Reynaldi (Pollution and Damage Control Section)

Result of Interview and Discussion :

Conditions known to the Department of Environment at this time:

- An HCV assessment to our knowledge has previously been carried out. It's just that when we visited the location of PT. MKS several signposts notifying the presence of HCV areas are still not installed.
- In the field, some residents also reported that some of the oil palm plantations had reached the riverbanks.
- There is a report that the plasma company PT. MKS is still having problems with the community where it has been almost eleven years that the community has not yet received their share of the proceeds from their plasma.
- AMDAL for the construction of PKS PT. The MKS and the construction permit were actually in Noyan village, then moved to Semongan village, while the addendum for the Amdal related to the relocation of the PKS location has not been finalized to this day.
- Due to the above problems, the company has not taken care of the IPLC (Liquid Waste Disposal Permit).
- Regarding the plasma issue with the community, and other problems, the government has made efforts and currently a team has been formed to solve the problem.

Expectation :

- The company immediately resolves the problems mentioned above and other problems so that in the future it will not cause bigger new problems.
- The company should be able to cooperate with a team from the government in solving any problems that occur in the community or related to the environment, especially problems that can cause environmental pollution and others.

Summary of Interview Results and Discussion with the Plantation and Livestock Service Office of Sanggau District

Interaction Type : Indepth Interview

Participant : M. Siryan (Business Development, Plantation Protection)

Result of Interview and Discussion :

Conditions known to the Department of Plantation and Livestock at this time:

- Until now PT. MKS still has problems with AMDAL. This is because of the new addendum for the construction of PKS. Where it was originally going to be built in Noyan Village, but then moved to Semongan village.
- The above problems have resulted in the emergence of new problems including labor problems, problems with changing the location of PKS and problems with plantation management funds (plasma), where until now residents have not received profit sharing from temporary plasma from cultivation until now it has been almost 11 years.
- Currently this problem has been handled by a team formed by the government. Even an independent accounting team was sent to solve this problem.

Expectation:

- It is good that there is a good initiative from PT MKS to immediately resolve the problems that have occurred so far related to the business activities of PT. MKS.
- Good communication with the government and the community is very important in solving problems that occur.

Summary of Interview Results and Discussions with the Department of Housing, Human Settlements, Spatial Planning and Land in Sanggau Regency

Interaction Type : Indepth Interview

Participant : Normansyah (Spatial Planning Staff)

Result Interview and Discussion :

Conditions known to the Department of Housing, Cipta Karya, Spatial Planning and Land of Sanggau Regency at this time:

- As far as we know, the relationship between PT. MKS with the government and citizens is quite good.
- To be able to obtain a map of the RTRW of Sanggau Regency, it can be done by writing to the Department of Housing, Human Settlements, Spatial Planning and Land of Sanggau Regency formally from the institution that wants the data. Only later will we provide the map for the purpose of an integrated HCV-HCSA assessment study.

Expectation :

- PT. MKS always maintains good relations with the government and more importantly with the communities where the company operates.

Summary of Interview Results and Discussions with the Sanggau District Education and Culture Office

Interaction Type : Indepth Interview

Participant : Edi Kusmadianto (Culture Section)

Result Interview and Discussion :

Conditions that are known to the Department of Education and Culture of Sanggau Regency at this time are:

- As far as we know, the relationship between PT. MKS with the government and citizens is quite good.
- We really welcome the concern of PT. MKS towards the cultural system of the community and sacred places that are seen by residents as part of their culture. As far as we know, only PT. MKS who cares and comes to this service in order to learn about the cultural system of the citizens as appropriate where PT. MKS is.
- As far as we know, based on the results of cultural studies, the Segumon hamlet is the origin of the existence of the Dayak. The hamlet is located close to the area of PT. MKS and is part of Sungai Daun village. In this village there is a tampun juah.
- Almost the cultural system of the nearby villages is part of the existing cultural system in Segumon hamlet. Likewise with sacred sites or places such as pedagi, sandung, atok pala tujuh and others

Expectation :

- PT. MKS can together with local residents preserve the local culture and maintain historical or sacred sites in the villages around the PT. MKS operates.
- PT. MKS always maintains good relations with the government and more importantly with the communities where the company operates.

Summary of Interview Results and Discussions with the Dayak Customary Council (DAD) of Noyan sub District

Interaction Type : Indepth Interview

Participant : Petrus Sudarmin (Head of Dayak Customary Body, Noyan Sub District

Summary of Interview Results and Discussions with the Dayak Customary Council (DAD) of Noyan District ..

- It is recognized that the company PT. MKS, one of which has been able to provide many jobs for the local community.
- Not only creating jobs, the company has also been able to improve the quality of infrastructure such as roads in the local area.

Expectation :

- When solving problems with local villagers, please don't settle them through formal law, but resolve them amicably and through deliberation to reach consensus.
- Involve DAD in solving problems related to local residents, especially those related to local cultural customs.
- Considering that there are company buildings in several villages, both offices and others, they should be decorated with ornaments or carvings typical of the Dayak tribe in order to respect local culture and in the context of preserving local culture in the form of fine arts.
- Both residents, government and companies can jointly maintain cultural sites in each village.
- CSR that is run by the company should be adjusted to the needs of the residents, such as education assistance, clean

water and others.

- It is better if the community and the company communicate well with each other and establish mutually beneficial relationships.
- In order to improve the relationship, public relations between PT, MKS should come more often to the community and traditional administrators including DAD so that good relations in the future will be even closer.
- Basically we strongly support the existence of PT MKS, as for other problems we consider normal and commonplace in any company. As far as we can solve the problem well, then we really appreciate the company.
- What we have felt since the existence of the company PT. MKS is the existence of school bus assistance for children as a form of concern for PT. MKS, assistance when there are gadget activities and others.
- We hope that PT. MKS always prioritizes local residents who apply for jobs at PT. MKS.
- PT. MKS always maintains good relations with the government and more importantly with the communities where the company operates.

Summary of Interview Results and Discussion with Medeap Bauh Plasma Farm Cooperative (PT. MKS Plasma Cooperative)

Interaction Type : Indepth Interview

Participantss : Paulus Ulna (Head of Cooperative)

Result Interview and Discussion :

The conditions that are known to the Medeap Bauh Plasma Farm Cooperative (PT. MKS Plasma Cooperative) are:

- The total land area of PT MKS' plasma area of 1,170 Ha is 900 Ha. Meanwhile, the remaining 270 hectares are still being managed or in process because there are still problems with the ownership documents.
- The start of land clearing activities was 2008 and plasma cooperation began in the same year where the agreement to raise credit was carried out for 10 years. This means that after that, the total income from the total plasma land of each member of the cooperative belongs to the cooperative members after deducting maintenance costs (because maintenance costs are still charged to the company).
- roduction cost per hectare of plasma land is determined by the company at Rp. 98,000,000,-/ha.
- The company promised the plasma to be fully returned to the residents in 2031 (this promise was made after some time the company worked on the land that the plasma would be returned to the residents in 2031, even though if the credit lift was calculated for 10 years, it should have been given in 2018-2019).
- The number of members of the cooperative was initially around 490 members and has now grown to more than 500 members

Expectation :

- The good intentions of PT. MKS in solving problems that occur in the community, especially related to community plasma.
- PT. MKS always maintains good relations with the government and more importantly with the communities where the company operates.

Summary of Interview Results and Discussions with the Noyan sub District Government

Intercation Type: Indepth Interview.

Participant: Sukamto (Governance Section)

Result of Interview and Discussion:

The sub-district welcomes the integrated HCV – HCS pre-assessment study and PT. MKS and invites them to carry out a complete assessment.

Concern :

Main Recommendation :

- There is good cooperation and communication between PT. MKS with the community in terms of maintaining and preserving the environment, especially in maintaining the residents' water sources so that they are not polluted.
- Maintain good relations with the community.
- Always coordinate with the sub-district authorities in various matters, especially regarding the activities of the PT MKS company in the community.

Summary of Interview Results and Discussions with the Sekayam sub District Government

Intercation Type: Indepth Interview

Participant: Salimin (Economic and Development Section)

Result of Interview and Discussion:

The sub-district welcomes the integrated HCV – HCS pre-assessment study and PT. MKS and invites them to carry out a complete assessment.

Concern :

Main Recommendation :

- Maintain good relations with the community.
- Always coordinate with the sub-district in various matters, especially regarding the activities of the PT MKS company in the community.

Summary of Interview and Discussion with Military District Comander Noyan Sub District

Interaction Type : Final Public Consultation

Participant : Roberto Apim (Member Military District)

Result Interview and Discussion :

Concern and Main Recommendation:

Cooncern :

- None

Main Recommendation:

- Any future public consultation activities must be prepared as well as possible with sufficient time and the event is prepared as well as possible, especially if inviting local government officials.
- The data and facts from the study are expected to be presented as well as possible and proportionally and can be accounted for. Perhaps the presentation material that was previously made and adjusted to the background of the participants can help the understanding of the discussion participants in capturing the explanation of the presenter in front. So the discussion can go well.
- In the Noyan sub-district, there is no Noyan river, but there is also the Kembayan river. Therefore, river naming information and others are expected to be improved.

Assessor Team Response :

- We are aware of all the shortcomings in the implementation of this activity, in the future of course we will improve it.
- At the time the study was conducted and during direct field observations, we included company workers who were familiar with the study area, we also invited local villagers to inspect any places that might indicate HCVs. Every naming of places, whether rivers or sacred places or hills, is confirmed by local residents. as well as the names of the trees and animals we found. However, it is possible that the residents we invited did not understand the names of places, trees or animals that we found (local names), even more so that we found many names for one place. So that mistakes in naming both rivers and animals and plants can occur. Therefore, through this public consultation, we will confirm whether any findings are correct, especially for naming places, rivers and others. Thank you very much for providing us with information.
- In Noyan village there is no market, but there are only ordinary shopping places in the form of stalls and shops. However, most of the necessities can be obtained in the village either from shops, stalls or traveling traders who come to the area.
- The need for clean water in Noyan village is mostly from wells and springs. Almost all residents do not always depend on river water.

Summary of Interview Results and Discussions with the Sekayam sub District Government

Interaction Type : Final Public Consultation

Participant : Ancip Sbastianus (Head of Sekayam Sub District)

Result Interview and Discussion :

Concern and Main Recommendation:

Cooncern :

- None

Main Recommendation:

- The material for the activity has not been distributed at the beginning, so we still do not understand the material presented in its entirety and the purpose of this study has not been clearly conveyed.
- It was explained earlier that the level of dependence on wood for house materials and household appliances does not exist, even though there are still many residents who use wood for house materials and household appliances.

Assessor Team Response :

- As explained earlier, the purpose of this activity is to identify areas that have or are indicated to have high carbon stock values and high conservation values.
- The data we present is in accordance with the results we obtained in the field. Where according to residents at the time of the FGD and interviews were conducted that there are still residents who use wood for house materials and for household appliances, but there are alternatives, namely building materials that can be obtained from building shops such as bricks, steel light weight, cement, sand and so on. Meanwhile, household appliances can be replaced with tools made of plastic that can be purchased at the traveling merchant or the nearest store. In addition, the wood used for house materials, apart from being able to be purchased in the material, also in the wood extraction area has been obtained outside the study area. So that the people's dependence on wood from the study area, according to several people we interviewed, was very small.

Summary of Interview Results and Discussions with the Office of Plantations, Livestock and Agriculture of Sanggau Regency

Interaction Type : Final Public Consultation

Participant : Syafriansyah (Head of office)

Result Interview and Discussion :

Concern and Main Recommendation:

Concern:

- Hopefully this public consultation activity is not only ceremonial and the results of the study are only limited to studies without any application in the field according to the studies that have been carried out
- As we know, considering that there are still a few problems between the residents and the company, several things that the company must pay attention to are: must maintain harmonization between the company's environment and the surrounding community and resolve any problems with the community properly and in a family manner. Then, considering that the plasma HGU with the nucleus has not been separated, it will usually have a bad impact in the future, so it is hoped that the company will immediately anticipate to solve the problem because it is feared that it will happen in the near future.

Main Recommendation:

- In the future, activities should not be carried out on Fridays with a limited time given the importance of discussing these HCS and HCVs.
- It is recommended that the preparation of activities before the event is carried out is more mature and presentation materials are given well in advance of this activity.
- It appeared earlier that the area of SKT/NKT + 533 Ha, if the area of HGU PT. MKS, + 9,688.91 Ha, does the conservation area found meet the requirements? Then, earlier, there were 6 HCV attributes from HCV 1 to 6, each indicator for each HCV was not met as a whole, will this still be included as an HCV area or not? because if not then the conservation area of + 533 Ha, of course, will decrease again.

Assessor Team Response :

- Thank you for the suggestions and inputs that are very constructive for us. In the future, we will try to improve the public consultation activities that we usually do, both in terms of implementation time, event timing, duration of activities, activity materials and so on.
- As far as we have done in the field, our conservation area has been around + 533 Ha. However, due to our limited time, cost and manpower, it would be better if after this activity is carried out, the company will investigate further because it is possible that some HCV areas have not been inventoried. Meanwhile, the overall non-fulfillment of the indicators in each HCV does not mean that the HCVs found will not be included. Precisely because there are several indicators that are met, we declare that the HCV exists. Therefore, we ensure that we will not reduce the area of HCV that is found.

Summary of Interview Results and Discussions with the Sanggau District Environmental Service

Interaction Type : Final Public Consultation

Participant : Nazmi Yaya (Environmental Head Section)

Result Interview and Discussion :

Concern and Main Recommendation:

Concern:

- None

Main Recommendation:

- It is hoped that every invite, invited guests are confirmed their presence a few days before this event is held, so that discussions related to this study can really be maximized and as expected. For those who cannot attend, it is hoped that they will be able to provide notes on their absence as well as suggestions and input on the material for activities that will be presented and discussed.
- The activity time should not be on Friday and the activity should not be limited to a short time. For presenters who are unable to attend, they are expected to inform their absence and provide reasons for their absence as in an Amdal presentation activity.
- Does this study use PT. MKS ? then is there any land that falls into the HCV category but is already planted with oil palm? So what if this happens?
- In this HCV assessment or assessment, are there activities to check the condition of water color, hydrology, sacred places, etc.? and whether social studies related to social problems or issues are also carried out?

Assessor Team Response :

- Thank you for your suggestions and input, of course it is very valuable for us for future improvements.
- One of the main references for this study is the Amdal document. Any land that is included in the HCV category and has already been planted, will usually be given a tolerance for one plant life cycle and chemical fertilization is prohibited so as not to disturb the surrounding ecosystem. Then after one life cycle has passed, reforestation will be carried out. As long as it lasts, then the conservation activities in the place are carried out properly.
- Activities to check the condition of water color, condition of river borders, even the types of fish in the area are also examined, sacred places and things that indicate the presence of HCVs are carried out in the field. Then for areas that are indicated by the presence of HCV or HCS, apart from being documented, the monitoring will also be carried out to identify the surrounding environment. Then related to social studies or issues that develop in the community, a Social Impact Assessment study is also carried out in conjunction with an HCV/HCS study. It even becomes a reference material for integrated HCV/HCSA assessments.

Summary of Results of Interviews and Discussions with the Bina Marga Office of Sanggau Regency

Interaction Type : Final Public Consultation

Participant : Sugeng Kasino (Water resources management Head Section)

Result Interview and Discussion :

Concern and Main Recommendation:

Concern:

- None

Main Recommendation:

- Please ensure that what we are discussing is the area within the PT. MKS, then because there is a plan to print rice fields in the HGU area, are these rice fields included in the HCV area or not, especially in Semongan and Noyan villages?
- Explanation of land cover is expected to be adjusted according to SNI rules. Then based on the map, to the east of the HGU area it borders Sintang Regency, while in that district there is a Sintang groundwater basin. Does the study area intersect or is it entirely within the basin?
- The local government road is also inside the HGU area of PT. MKS, please explain?
- The map scale is too small, please adjust it to the standard map scale in general.

Assessor Team Response:

- What was discussed in the public consultation material was the HGU area of PT. The MKS is in accordance with the latest map of the company's HGU that we obtained from the company and the area around the company which is + 5 km from the company's HGU point. So we make sure that what we are discussing is the company's current HGU area and even added how the interaction between the HGU area and the surrounding area is considering there are several residents living around the HGU area (both inside and outside the company's HGU).
- Regarding rice field printing, because we have not obtained real data and the rice fields have not been found at the time of the assessment, they are not included in the HCV area for now. For the record, in order to be listed as HCV 5, the area that serves as a place to meet basic needs, especially carbohydrates, in its utilization, apart from there being no better alternative, its existence and utilization does not interfere with other HCVs in the vicinity.
- As far as we examined, the HGU area of PT. MKS is not located in the Sintang groundwater basin area.
- For local government roads, we will review and confirm with the company as well as for map scales, of course, according to input, we will make scales as needed.

Summary of Interview Results and Discussion with the Education and Culture Office of Sanggau Regency

Interaction Type : Final Public Consultation

Participant : Maskun (Head of Office)

Result Interview and Discussion :

Concern and Main Recommendation:

Concern:

- None

Main Recommendation:

- We really welcome this integrated HCV/HCSA assessment. Hopefully the results obtained can be applied in accordance with what should be so that it can produce good benefits for the community and the company.
- In Noyan village there are sacred sites that have been recognized by the district and provincial governments of West Kalimantan, one of which is the Pedagi Nyago sacred site. With this study, it is hoped that other sites found will become findings and can be informed to the local government. so that in the future we can preserve sacred sites or places that contain cultural values.
- We have not seen any significant attention from companies in the field of education. We hope that in the future the company will be more willing to help in the field of education, especially in the community who live around the company concerned, namely PT. MKS.

Assessor Team Response:

- Thank you for your welcome and suggestions, of course very useful and will be an improvement material for us for the next activity.
- Regarding the sacred site of Pedagi Nyago, we found it in Noyan village. However, its existence is located outside the HGU area but is still within the boundaries of the integrated HCV/HCSA study landscape. We will certainly give the best recommendation for the company so that every sacred place and so on that has an HCV 6 value can be maintained and maintained properly by the company and by local companies. This integrated HCV/HCSA document is a public document that can be accessed by anyone. So information on the results of this study can be obtained by all relevant agencies.

The total area of HCV management and monitoring within the licensed area of PT. MKS covers an area of 8.386,81 ha, with details: an area that is not allowed to be cultivated is 598,61 ha and an area that can be cultivated but with great care because it has the potential as an orangutan distribution area of 7.788,20 ha. The reason why the HCV management and monitoring area in the PT. MKS is the same as the HCV area because the HCV area found in the area already takes into account both the HCVs found in the area and those potentially found in the area.

Table 22. Summary of HCV-HCS Values Identified within and around Permit Area of PT PT. MKS

HCV Area	HCV Area at the Landscape Level (Ha)	HCV Area within Permit Area PT MKS		
		Total Areal (Ha)	Unplanted Area (Conservation Area) (ha)	Planted Area with Precautionary Approach (ha)
HCV 1[1)]	20.072,43	506,17	506,17	00,00
HCV 2	14.907,79	8.292,93	598,61	7.694,32
HCV 3	1.170,10	166,76	142,43	24,33
HCV 4	5.164,64	937,26	598,61	338,65
HCV 5[2)]	1.219,65	331,15	331,15	0,00
HCV 6	1,00	1,72	1,72	0,00
Total[3)]	20.027,43	**8.386,81**	**598,61**	**7.788,20**

Note ::

[1)] = The management of HCV 1, HCV 2, and HCV 3 must be carried out comprehensively both inside and outside the HCV area considering that wildlife species (mammals and birds) are always mobile.

[2)] = HCV 5 is closely related to HCV 4.1.

[3)] = The total HCV management area is not the same as the sum of all HCV areas because there is overlap between one HCV and another.

Table 23. Recapitulation of the conservation area and management area in the study area

Environmental and Social Values Must be Preserved	Area (Ha)	Management Area (Ha)	
		No-Go Areas	Go Areas
HCS Forest HCS Area -1 and HCS Area-2.	108,48	108,48	0,00
HCV 1 • Species of flora including endemic, rare, threatened or endangered: Remingkai (Agathis borneensis Warb.), Mersawa/tokap (*Anisoptera marginata* V. Si), Gulumik/Belimbing (*Baccaurea angulata* Merrill), Anggrek tanah (*Bromheadia finlaysoniana* (Lindl.) Miq.), Bedara (*Cantleya corniculata* Howard.), Ayau (*Cotylelobium burckii* Heim), Mang (*Cotylelobium lanceolatum* Craib.), Tapa (*Ctenolophon parvifolius* Oliv.), Medang (*Dehaasia firma* Bl.), Keladan (*Dryobalanops aromatica* Gaertn.), Keladan benang (*Dryobalanops beccarri* Dyer.), Keladan beluluk (*Dryobalanops oblongifolia* Dyer), Pekawai (*Durio kutejensis* (Hassk.) Beccari), Burian hutan (*Durio lanceolatus* Mast.), Ulin (*Eusideroxylon zwageri* T. & B.), Anggrek bongkol (*Pholidota chinensis* Lindl.), Maro/marou (*Shorea ochrea* Sym.), Plango/pono (*Shorea ovata* Dyer.), Majo (*Shorea palembanica* Miq.), Tengkawang (*Shorea pinanga* Scheff.), and Meranti putih (*Shorea platycarpa* Heim). • Endemic, rare, threatened or endangered fauna species: Mamall (Monyet Ekor-panjang (*Macaca fascicularis*), Owa Kelawat (*Hylobates muelleri*), Trenggiling Peusing (*Manis javanica*), Berangberang Cakar-kecil (*Lutra perspicillata*), Kucing Kuwuk (*Prionailurus bengalensis*), and Rusa Sambar (*Rusa unicolor*)); Aves (Elang Tikus (*Elanus caeruleus*), Elangular Bido (*Spilornis cheela*), Elang Brontok (*Nisaetus cirrhatus*), Kuau Raja (*Argusianus argus*), Enggang Klihingan (*Anorrhinus galeritus*), Takur Gedang (*Megalaima chrysopogon*), Takur Tutut (*Megalaima rafflesii*), Takur Topi-merah (*Megalaima henricii*), Layanglayang Asia (*Hirundo rustica*), Kipasan Belang (*Rhipidura javanica*), Kerak Kerbau (*Acridotheres javanicus*), and Tiong Emas (*Gracula religiosa*)); and Herpetofauna (Ular Sawah (*Malayopython reticulatus*), Ular Dipong Hitam (*Python breitensteini*), Ular Sendok Sumatra (*Naja sumatrana*), Biawak Air (*Varanus salvator*), dan Labi-Labi Hutan (*Dogania subplana*)).	506,17	506,17	0,00

• Rivers and their boundaries: S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Areas: Hilly Areas D19, Hilly Areas F42, Hilly Areas G26, Hilly Areas H31, and Hilly Areas I20. • Orangutan distribution area.			
HCV 2 • Orang Utan distribution area. • Rivers and their boundaries: S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Areas: Bukit Blok C-21, Bukit Blok C-23, Bukit Blok C-26, Bukit Blok D-19, Bukit Blok D-21, Bukit Blok D-26, Bukit Blok E-23, Bukit Blok F- 42, Bukit Blok G-22, Bukit Blok G-26, Bukit Blok H-10, Bukit Blok H-31, Bukit Blok I-11, Bukit Blok I-20, Bukit Blok I-22 and Bukit Blok L-28.	8.293,82	598,61	7.694,32
HCV 3 • Association of mixed dipterocarp forest or hills on metamorphic rock and granite rock and association of mixed dipterocarp forest or hill on volcanic rock, metamorphic rock and granite rock. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Area: Hilly Area I20.	166,76	142,43	24,33
HCV 4 • Rivers and their boundaries: S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba. • Springs and their boundaries: Bela'u River springs, Serabu River springs, Raja River tributary springs, Gunung River springs, Keraci River springs, Sengadah springs, Dusun Mayan and Kojub springs, and Lentong River springs. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Area: Hilly Area D19, Hilly Area F42, Hilly Area G26, Hilly Area H31, Hilly Area H61, Hilly Area I09, Hilly Area I12/J12, Hilly Area I20, and Hilly Area M08.	937,26	598,61	338,65
HCV 5 • Communities in the village around the PT. MKS utilizes S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Segumon, and S. Tuba to meet the needs of drinking water and MCK. • Communities in the village around the PT. MKS utilizes Bela'u River springs, Serabu River springs, Raja River tributaries, Gunung River springs, Keraci River springs, Sengadah springs, Mayan and Kojub hamlets springs, and Lentong River springs to meet water needs drink. • Communities around the PT. MKS utilizes the Rice Fields of Noyan Village, Semongan Village Rice Fields, and Sei Tekam Village Rice Fields to meet carbohydrate needs	331,15	331,15	0,00
HCV 6 Distribution of religious or sacred sites, burial sites or locations where traditional ceremonies take place that are important to local communities or indigenous peoples: Lulung Bengris, Tembawang Guna, Tembawang Serabu and Atok Pala Tujuh, and Tungkup.	1,72	1,72	0,00
Peat	0,00	0,00	0,00

Local people's land (if any additional for HCV 5 & 6).	0,00	0,00	0,00
TOTAL [1)]	**8.386,81**	**598,61**	**7.788,20**

Note: [1)] Total HCV area is not the same as the sum of all HCV areas because there is overlap between one HCV and another

Community Land and Future Livelihoods

1. Village Level

Community land around the permit area of PT. MKS is in the form of dry land forest which was initially cleared by the community to be used as settlements, plantation land, especially rubber, and agricultural land in the form of fields and rice fields. Of the 4 villages within the PT. MKS, namely Noyan Village, Semongan Village, Malenggang Village and Sungai Tekam Village. The total rice fields in the 4 villages are 49,47 ha and the total population is 9.947 people, so the ratio between food-producing land area and population is 0,005 people/ha. The ratio between rice field area and population in the four villages ranged from 0,0001 – 0,021 ha/person and did not meet the guideline of 0,5 ha/person. Although it does not meet the guidelines, 0,5 ha/person, the presence of rice fields in 4 villages within the PT. MKS include Noyan Village, Semongan Village, Malenggang Village and Sungai Tekam Village including community land that functions to maintain future food security.

2. Sub-Dsitrict Level

As previously explained, the six villages in and around the study are included in the Noyan and Sekayam sub-districts. Based on Sanggau District in 2019 Figures, Noyan District in 2019 Figures and Sekayam District in 2019 Figures, the number of residents in 2 sub-districts around the area and in the PT. MKS as many as 16.024 people (for the 6 study villages) and food-producing land area of 126,71 ha, so the ratio between the area of agricultural land and the total population is 0,008 (does not meet the guidelines of 0,5 ha/person). Even though it does not meet the guidelines, 0,5 ha/person, the existence of agricultural land in these 2 sub-districts includes community land that functions to maintain future food security

Peat

Based on the results of the overlay permit area of PT. MKS with national soil map and land system map of Sumatra Island (RePPProt 1987), Peat Hydrological Unit map according to SK.129/MenLHK/Setjen/PKL.0/2/2017 KLHK 2017), Indonesian Peat Distribution Data (Wetland 2014), Data Distribution of Indonesian Peat (Ministry of Agriculture 2011) it can be concluded that in and around the permit area of PT. MKS did not find the potential for the presence of peat areas.

HCS Assessment

In the diameter class >50 cm, trees were found in the HCS cover class, Density Forest and Young Regeneration Forest, as well as 3 trees in AGRI; in the diameter class 30-49,9 cm found in all HCS cover classes, namely 255 trees in HK, 106 trees in HRM, 9 trees in Scrub and 55 trees in Agri. Distribution of trees in diameter classes 15-29,9 cm and 5-14,9 cm were found in each land cover class.

Based on the results of the final land cover classification in the PT. MKS shows the largest land cover area in Plantation-Agriculture (AGRI) both inside and around the PT. MKS from the total area of the management unit. The land cover class is dominated by oil palm plantations and community rubber plantations. The highest estimated carbon stock in the permit area of PT. MKS was found in the land cover class of High, Medium and Low Density Forest (HK) of 6.517,25 tC/ha; while the lowest was in the Open Land Cover (LT) class of 24,55 tC/ha.

The Give and Take process is not carried out in this study. The conservation area polygons have been in the form of compact polygons. The entire HCS patch area in and The Give and Take process is not carried out in this study. The conservation area polygons have been in the form of compact polygons. The entire HCS patch area in and around the PT. MKS overlaps with designated HCV areas. The results of the integration of conservation areas and land use indicate that there is a potential area for the development of oil palm plantations covering an area of 9.090,39 ha.

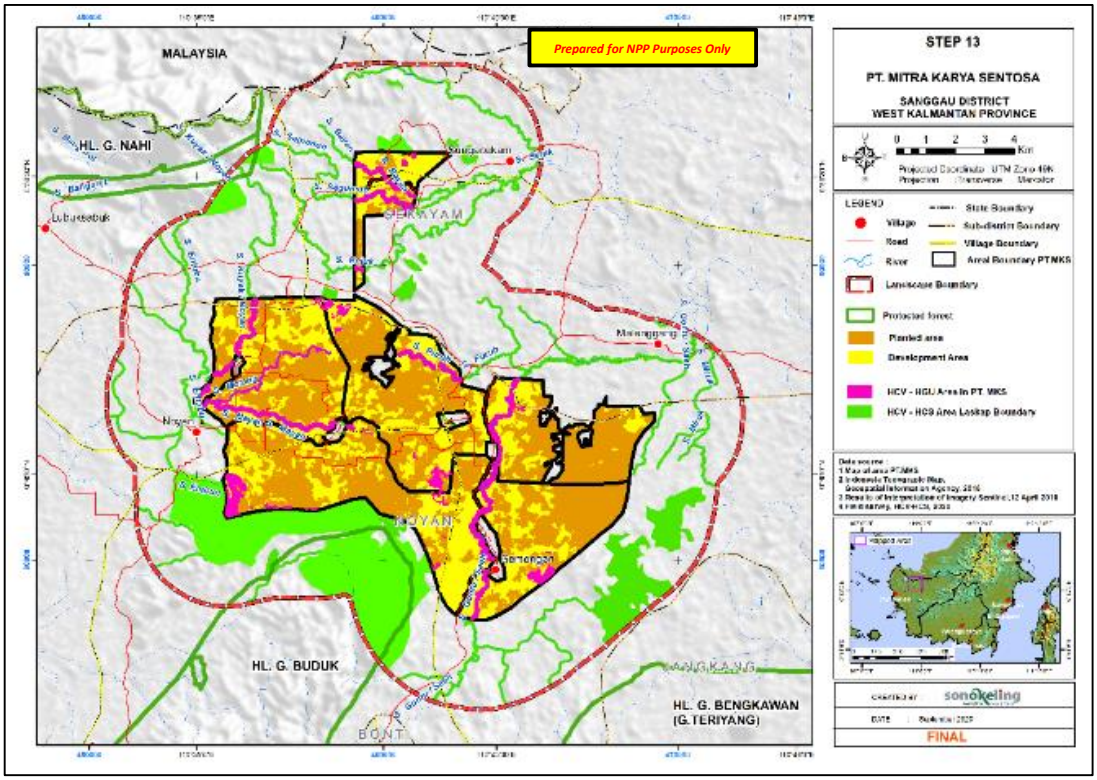


Figure 14. Map results of ICLUP Finalization

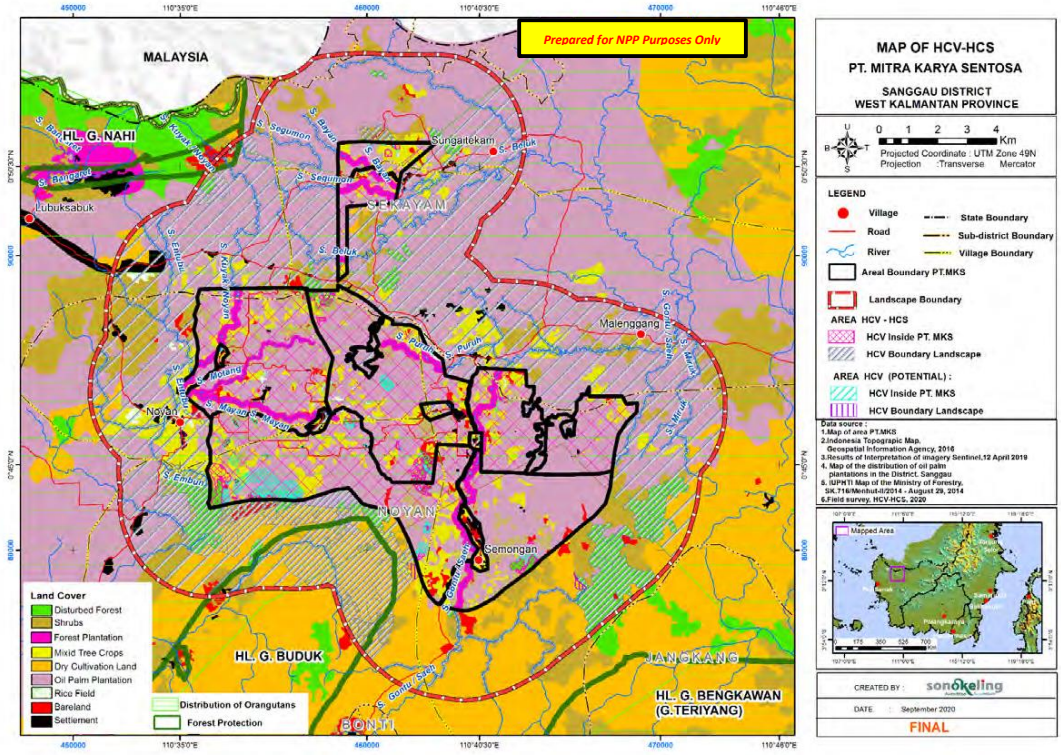


Figure 15. Map results of the ICLUP and HCS Area

Final Consultation Summary

The final consultation which was carried out with stakeholders through meetings with various stakeholders was carried out twice, namely on Thursday, August 13, 2020 at the Meeting Room Mill PT. MKS, Semongan Village, Noyan District, Sanggau Regency for the village and sub-district levels which was attended by 23 people including several government agencies such as: Muspika of Noyan

and Sekayam Sub-districts, Noyan and Sekayam Sub-district Heads, Dayak Customary Councils at Noyan and Sekayam Districts, Head of Danramil and Head of Noyan and Sekayam District Police, company staff, and local communities (village heads, BPD, village officials, traditional leaders, traditional leaders and community leaders). While the second final consultation was carried out at the Sanggau Regency level, namely on Friday, August 14, 2020 at the Meldy Hotel Meeting Room, Sanggau Regency which was attended by 9 participants including several government agencies such as the Sanggau Regency Environmental Service, Sanggau Regency BPN, Plantation Office, Livestock and Agriculture of Sanggau District, Sanggau District Education and Culture Office, Sanggau District Highways Service, Sanggau District local journalists and local NGOs. Items presented in the public consultation include: understanding of HCVs and their categories as well as HCS, objectives and benefits of HCV-HCSA assessment, process of HCV-HCSA assessment, method of HCV-HCSA assessment, results of field observations (biodiversity, environmental and socio-cultural services), the findings/results of the provisional HCV-HCSA assessment along with the map (draft version), threats to the HCVs, and recommendations for management and monitoring of the HCV-HCSA areas.

Table 24. Summary of consultations with stakeholder groups as well as the main issues or issues raised by them along with the recommendations submitted

Group Name	Role	Organization/Social Group	Location	Time
Roberto Apim	Military District member	Military District Commando Noyan	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: None Main Recommendation: • Any future public consultation activities must be prepared as well as possible with sufficient time and the event is prepared as well as possible, especially if inviting local government officials. • Data and facts from the study are expected to be presented in the best possible way and proportionally and can be accounted for. Perhaps the presentation material that was previously made and adjusted to the background of the participants can help the understanding of the discussion participants in capturing the explanation of the presenter in front. So the discussion can go well. • In the Noyan sub-district, there is no Noyan river, but there is also the Kembayan river. Therefore, river naming information and others are expected to be improved. Assessor Response: • We are aware of all the shortcomings in the implementation of this activity, in the future of course we will improve it. • At the time the study was conducted and during direct field observations, we included company workers who were familiar with the study area, we also invited local villagers to inspect any places that might indicate HCVs. Every naming of places, whether rivers or sacred places or hills, is confirmed by local residents. as well as the names of the trees and animals we found. However, it is possible that the residents we invited did not understand the names of places, trees or animals that we found (local names), even more so that we found many names for one place. So that mistakes in naming both rivers and animals and plants can occur. Therefore, through this public consultation, we will confirm whether any findings are correct, especially for naming places, rivers and others. Thank you very much for providing us with information. • In Noyan village there is no market, but there are only ordinary shopping places in the form of stalls and shops. However, most of the necessities can be obtained in the village either from shops, stalls or traveling traders who come to the area. • The need for clean water in Noyan village is mostly from wells and springs. Almost all residents do not always depend on river water.				
Ancip Sebastianus	Head of Sub Distric Sekayam	Sekayam Sub District	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation Concern: • None Main Recommendation: • The material for the activity has not been distributed at the beginning, so we still do not understand the material presented in its entirety and the purpose of this study has not been clearly conveyed. • It was explained earlier that the level of dependence on wood for house materials and household appliances does not exist, even though there are still many residents who use wood for house materials and household appliances.				

Group Name	Role	Organization/Social Group	Location	Time
Assessor Respons : • As explained earlier, the purpose of this activity is to identify areas that have or are indicated to have high carbon stock values and high conservation values. • The data we present is in accordance with the results we obtained in the field. Where according to residents during the FGD and interviews were conducted that there are still residents who use wood for house materials and for household appliances, but there are alternatives, namely building materials that can be obtained from building shops such as bricks, steel light weight, cement, sand and so on. Meanwhile, household appliances can be replaced with tools made of plastic that can be purchased at the traveling merchant or the nearest store. In addition, the wood used for house materials, apart from being able to be purchased in the material, also in the wood extraction area has been obtained outside the study area. So that the people's dependence on wood from the study area, according to several people we interviewed, was very small.				
Marius	Head of Village	Semongan Village	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: • The results of this study are only limited to studies and have no application in the field. Therefore, it is requested that the results of this study be carried out as well as possible in the field. Main Recommendation: • Ask for places such as sacred places, springs, tembawang and others so that the residents together are properly guarded and that residential areas of residents who are still in or near the company's area are not disturbed and if possible removed from the HGU area so that we can apply for certification. • Considering that we still do not have public graves, we hope that the company can help us in providing public graves for our villagers. In fact, besides being included in the HCV area, there are also sacred places and the land is very suitable for public graves. We hope that the Tembawang Serabu, apart from being taken care of together, is also given as a place for the public graveyard of our residents. • Then, for PT. It is hoped that the management of MKS will be given to our village government so that it becomes a government effort in order to increase our village fund income. Assessor Respons : • Any recommendations or concerns are actually the right and responsibility of the company to respond to them. However, we will make recommendations to the company in accordance with the expectations and wishes of the village head who represents the local community.				
Paulus Ulna	Head of Plasm Coorperative	Plasm Cooperative Medeap Bauh (Noyan village)	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: • Given what we see that the HCV Block map is included in our plasma plan, there is a concern that plasma land will decrease and there will be no replacement from the company. • The results of this study are only a study and there is no actual application in the field according to the results of the study. Main Recommendation: • So that we can immediately be given the results of the study and the extent of the results of the study, especially the HCV area which based on the map seems to be in the plasma plan area so that we can immediately negotiate with the company. • In several villages, especially Noyan and Semongan, there are rice fields in the company's HGU area, so that the rice fields are inclave or removed from the study area because these areas are areas where residents meet their carbohydrate needs (rice/paddy). • After this study is carried out and it is known that there are HCV/HCS locations, what will be done next and if the company violates the HCV rules, what are the sanctions? We don't want this to be just a study without any actual application in the field. We hear and see how good and good this study is, but if it is not carried out it will be very useless. Assessor Response: • We conducted a study mainly within the company's HGU area according to the HGU map provided to us. As for finding land inside or outside the land designated for plasma, it can be discussed directly with the company together with plasma participants/representatives. • Actually, some experts say that rice fields are included in the area that must be considered as a provider of carbohydrates for residents. Therefore, there will be special attention to rice fields so that the precautionary principle is applied there and maintained so that it remains sustainable and can provide benefits for residents as providers of carbohydrates.				

Group Name	Role	Organization/Social Group	Location	Time
• Of course there will be conservation of HCV areas and if the company violates the existing rules, it will be punished according to what the company has done up to the revocation of the RSPO certification permit so that the company cannot participate in selling its products outside.				
Nunuk	Head of Village	Malenggang village	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: • None (only a small part of the Malenggang village area is included in the PT. MKS HGU) Main Recommendation: • Residential areas and plantations are expected to be removed from the HGU so that the PTSL or Prona program can be proposed Assessor Respons: • For this matter, it is better to discuss it with the company and find the best solution.				
Yunardi Hatta	Head of customary	Malenggang village	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: None Main Recommendation: • Sacred forests, sacred places and places indicated to have HCV/HCS values are expected to be given a sign/board with information on the presence of HCV/HCS. • Many residents are reluctant to pay PBB (Earth and Building Tax) especially for those who have settlements, gardens, or rice fields in the company's HGU, because they suspect that PBB has been paid by the company. Please clarify whether the PBB for residents who own land in the company's HGU area is paid by the company or must be paid by the residents. • Regarding land/forest fires, we admit that many occur by the community. but we don't understand/know the rules that we should obey from the government or the company. Therefore, please explain and provide assistance so that this does not always happen. Assessor Respons : • We are very grateful for the advice in providing signage for places indicated by HCV/HCSA. Of course we will recommend this to the company. • With regard to PBB, the company may be more entitled to answer it. • It is very good if there is a formation of community groups concerned with fire and so on where the company can position itself as a companion and initiator of the institution of community groups concerned with fire. So as to minimize the occurrence of land fires both outside and around the company area.				
Marsiana Sopia	Head of BPD	Noyan village	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: • Considering the plasma cooperation with the company PT. MKS has an agreement and has been running for a long time, but there has been no explanation so far regarding the lifting of plasma loans that are collaborated with plasma members, we are worried that this problem will continue and there is no certainty until this collaboration ends. • Many residents of Noyan village still use water from the river that flows through the company's permit area, there are concerns from residents that the river will be polluted due to company activities. Main Recommendation: • We hope that the company will immediately provide an explanation regarding the credit value that is the responsibility of the plasma cooperative members and related to the plasma profit sharing that the community can begin to accept. • There is good cooperation between the company and the community in protecting the environment, especially the rivers that are used by residents around the company. • Residential areas and plantations are expected to be removed from the HGU so that the PTSL or Prona program can be proposed Assessor Respons : • For matters related to the existence of residential areas or gardens or rice fields within the permit area of PT. MKS and related to plasma cooperation between plasma cooperatives (cooperative members) and the companies mentioned above, should be discussed with the company and find the best solution. • Of course there will be conservation of HCV areas and if the company violates the existing rules, it will be punished according to what the company has done up to the revocation of the RSPO certification permit so that				

Group Name	Role	Organization/Social Group	Location	Time
the company cannot participate in selling its products outside. Good cooperation between the company and the community is very important to achieve success in protecting the environment, especially rivers that are used by residents.				
A. Anggui	Customary Staff	Noyan village	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: • As explained by the head of the BPD of Noyan village, more or less the concern of the residents, especially the cooperative members, is the large amount of plasma credit that must be paid off by plasma members and there is no explanation about it from the company causing residents to worry that they will not be able to pay off and not get profit sharing. on the plasma in collaboration. Main Recommendation: • We are waiting for an explanation from the company regarding the provision of clarity on the status of plasma that is being cooperated by the community and the company considering that this collaboration has been going on for a long time until now. • Sacred forests, sacred places and places indicated to have HCV/HCS values are expected to be given a sign/board with information on the presence of HCV/HCS. • There is good communication between the company and the community in protecting the environment and others. Assessor Response: • We are very grateful for the advice in providing signage for places indicated by HCV/HCSA. Of course we will recommend this to the company. • Regarding plasma issues, the company may be more entitled to answer them.				
Hendrikus Jumali	Head of village	Sungai Tekam village(Dusun Perimpah)	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: • Not yet, considering the business activities of PT. MKS in Sungai Tekam village is still limited for now. Main Recommendation: • Residential areas and gardens are expected to be removed from the HGU so that the PTSL or Prona program can be proposed and residents can use both for settlements and land to meet the basic needs of the community. • Areas indicated by HCV are expected to be well conserved and hopefully this document will not only serve as a supporting document for company certification, but also be realized in the field according to the results written in the report. Assessor Response: • For this matter, it is better to discuss it with the company and find the best solution. • Of course there will be conservation of HCV areas and if the company violates the existing rules, it will be punished according to what the company has done up to the revocation of the RSPO certification permit so that the company cannot participate in selling its products outside. Good cooperation between the company and the community is very important to achieve success in protecting the environment, especially rivers that are used by residents.				
Alpius Salun	Head of BPD	Sungai Tekam Village	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: • There have been problems related to land between the company PT. MKS with local villagers who own land in the PT. MKS. However, this problem has been resolved amicably. Due to these problems, some residents are now worried that land problems will occur again if the company resumes land acquisition activities in the community. • Due to the business activities of PT. MKS in Sungai Tekam village is currently still limited, so there are still limited concerns. Main Recommendation: • It is hoped that there will be socialization beforehand from the company to the community before carrying out business activities in the Sungai Tekam Village area. • Establish good cooperation with the villagers of Sungai Tekam and always involve the government and local customary institutions in solving problems in the community related to the business activities of PT. MKS. • Always resolve problems with family deliberation.				

Group Name	Role	Organization/Social Group	Location	Time
• Residential areas and gardens are expected to be removed from the HGU so that the PTSL or Prona program can be proposed and residents can use both for settlements and land to meet the basic needs of the community. • Areas indicated by HCV are expected to be well conserved. Assessor Response: • For matters related to the existence of residential land, gardens and rice fields that are in the permit area of PT. MKS should be discussed with the company and find the best solution. • Of course there will be conservation of the HCV areas found within the PT. MKS which is included in the administrative area of Sungai Tekam village. • Responding to concerns related to the emergence of land problems within the company's permit area, the company must always carry out a Land Tenurial Study where this study can continue to be carried out and deepen and follow up on the results of social impact studies in order to resolve any problems that occur in the community. It is very good if the good cooperative relationship between the company and the village community is maintained properly.				
H. Martinus	Head of customary	Sungai Tekam village (Dusun Perimpah)	Meeting Room Mill PT. MKS	13 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation: Concern: Every question, concern or recommendation has actually been explained by the PLT. Head of Village and Head of BPD. It was explained earlier that there are several sacred places in Sungai Tekam village which are included in the permit area of PT. MKS. The company is very worried that these places will be evicted by the company when the LC (Land Clearing) is carried out again, there is no HCV notification sign or there is no commitment to protect the area indicated by HCV. Main Recommendation: • Sacred forests, sacred places and places indicated to have HCV/HCS values are expected to be given a sign/board with information on the presence of HCV/HCS. • There is good communication between the company and the community in protecting the environment and others. • It is hoped that there will be socialization beforehand from the company to the community before carrying out business activities in the Sungai Tekam Village area. • Establish good cooperation with the villagers of Sungai Tekam and always involve the government and local customary institutions in solving problems in the community related to the business activities of PT. MKS. Assessor Response: • We are very grateful for the advice in providing signage for places indicated by HCV/HCSA. Of course we will recommend this to the company. • Of course there will be conservation of the HCV areas found within the PT. MKS which is included in the administrative area of Sungai Tekam village.				
Syafriansyah	Head of Office	Office of Plantation, Livestock and Agriculture of Sanggau Regency	Meeting Room Borneo Hotel Meldy	14 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation oncern: • Hopefully this public consultation activity is not only ceremonial and the results of the study are only limited to studies without any application in the field according to the studies that have been carried out • As we know, considering that there are still a few problems between the residents and the company, several things that the company must pay attention to are: must maintain harmonization between the company's environment and the surrounding community and resolve any problems with the community properly and in a family manner. Then, considering that the plasma HGU with the nucleus has not been separated, it will usually have a bad impact in the future, so it is hoped that the company will immediately anticipate to solve the problem because it is feared that it will happen in the near future. Main Recommendation: • In the future, activities should not be carried out on Fridays with a limited time considering the very important discussion related to HCS and HCV. • It is recommended that the preparation of activities before the event is carried out is more mature and presentation materials are given well in advance of this activity. • It appeared earlier that the area of SKT/NKT + 533 Ha, if the area of HGU PT. MKS, + 9,688.91 Ha, does the conservation area found meet the requirements? Then, earlier, there were 6 HCV attributes from HCV 1 to 6, each indicator for each HCV was not met as a whole, will this still be included as an HCV area or not? because if not then the conservation area of + 533 Ha, of course, will decrease again. Assessor Response:				

Group Name	Role	Organization/Social Group	Location	Time
• Thank you for the suggestions and inputs that are very constructive for us. In the future, we will try to improve the public consultation activities that we usually do, both in terms of implementation time, event timing, duration of activities, activity materials and so on. • As far as we have done in the field, our conservation area has been around + 533 Ha. However, due to our limited time, cost and manpower, it would be better if after this activity is carried out, the company will investigate further because it is possible that some HCV areas have not been inventoried. Meanwhile, the overall non-fulfillment of the indicators in each HCV does not mean that the HCVs found will not be included. Precisely because there are several indicators that are met, we declare that the HCV exists. Therefore, we ensure that we will not reduce the area of HCV that is found.				
Nazmi Yahya	Head of Section	Sanggau District Environment Agency	Meeting Room Borneo Hotel Meldy	14 August 2020
Jenis konsultasi: Konsultasi Final Consultation Type: Final Consultation Concern and Main Recommendation Concern: None Main Recommendation: • It is hoped that every invite, invited guests are confirmed their presence a few days before this event is held, so that discussions related to this study can really be maximized and as expected. For those who cannot attend, it is hoped that they will be able to provide notes on their absence as well as suggestions and input on the material for activities that will be presented and discussed. • The activity time should not be on Friday and the activity should not be limited to a short time. For presenters who are unable to attend, they are expected to inform their absence and provide reasons for their absence as in an Amdal presentation activity. • Does this study use PT. MKS ? then is there any land that is categorized as HCV but is already planted with oil palm? So what if this happens? • In this HCV assessment or assessment, are there activities to check the condition of water color, hydrology, sacred places, etc.? and whether social studies related to social problems or issues are also carried out? Assessor Response: • Thank you for your suggestions and input, of course it is very valuable for us for future improvements. • One of the main references for this study is the Amdal document. Any land that is included in the HCV category and has already been planted, will usually be given a tolerance for one plant life cycle and chemical fertilization is prohibited so as not to disturb the surrounding ecosystem. Then after one life cycle has passed, reforestation will be carried out. As long as it lasts, then the conservation activities in the place are carried out properly. • Activities to check the condition of water color, condition of river borders, even the types of fish in the area are also examined, sacred places and things that indicate the presence of HCVs are carried out in the field. Then for areas indicated by the presence of HCV or HCS, apart from being documented, monitoring is also carried out to identify the surrounding environment. Then related to social studies or issues that develop in the community, a Social Impact Assessment study is also carried out in conjunction with an HCV/HCS study. It even becomes a reference material for integrated HCV/HCSA assessments.				
Sugeng Kasiono	Head of Water Resources Management	Public Work Agency Sanggau District	Meeting Room Borneo Hotel Meldy	14 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation Concern: None Main Recommendation: • Please ensure that what we are discussing is the area within the PT. MKS, then because there is a plan to develop rice fields in the HGU area, are these rice fields included in the HCV area or not, especially in Semongan and Noyan villages? • Explanation of land cover is expected to be adjusted according to SNI rules. Then based on the map, to the east of the HGU area it borders Sintang Regency, while in that district there is a Sintang groundwater basin. Does the study area intersect or is it entirely within the basin? • The local government road is also inside the HGU area of PT. MKS, please explain? • The map scale is too small, please adjust it to the standard map scale in general. Assesor Response: • What was discussed in the public consultation material was the HGU area of PT. The MKS is in accordance with the latest map of the company's HGU that we obtained from the company and the area around the company which is + 5 km from the company's HGU point. So we make sure that what we are discussing is the company's current HGU area and even added how the interaction between the HGU area and the surrounding area is considering there are several residents living around the HGU area (both inside and outside the company's HGU).				

Group Name	Role	Organization/Social Group	Location	Time
• Regarding rice field development, because we have not obtained real data and the rice fields have not been found at the time of the assessment, they are not included in the HCV area for now. For the record, in order to be listed as HCV 5, the area that serves as a place to meet basic needs, especially carbohydrates, in its utilization, apart from there being no better alternative, its existence and utilization does not interfere with other HCVs in the vicinity.Sejauh yang kami kaji, areal HGU PT. MKS tidak berada dalam areal cekungan air tanah Sintang. • For local government roads, we will review and confirm with the company as well as for map scales, of course, according to input, we will make scales as needed.				
Maskun	Head of Office	Sanggau District Education and Culture Office	Meeting Room Borneo Hotel Meldy	14 August 2020
Consultation Type: Final Consultation Concern and Main Recommendation Concern: None Main Recommendation: • We really welcome this integrated HCV/HCSA assessment. Hopefully the results obtained can be applied in accordance with what should be so that it can produce good benefits for the community and the company. • In Noyan village there are sacred sites that have been recognized by the district and provincial governments of West Kalimantan, one of which is the Pedagi Nyago sacred site. With this study, it is hoped that other sites found will become findings and can be informed to the local government. so that in the future we can preserve sacred sites or places that contain cultural values. • We have not seen any significant attention from companies in the field of education. We hope that in the future the company will be more willing to help in the field of education, especially in the community who live around the company concerned, namely PT. MKS. Assessor Response: • Thank you for your welcome and suggestions, of course very useful and will be an improvement material for us for the next activity. • Regarding the sacred site of Pedagi Nyago, we found it in Noyan village. However, its existence is located outside the HGU area but is still within the boundaries of the integrated HCV/HCSA study landscape. We will certainly give the best recommendation for the company so that every sacred place and so on that has an HCV 6 value can be maintained and maintained properly by the company and by local companies. This integrated HCV/HCSA document is a public document that can be accessed by anyone. So information on the results of this study can be obtained by all relevant agencies.				

3.3. Soil and Thopography Assessment

From the results of the analysis, the permit area of PT. Mitra Karya Sentosa is divided into 3 (three) land map units, each of which is assigned a code for Satuan Peta Tanah 1, Satuan Peta Tanah 2 dan Satuan Peta Tanah 3.

Table 25. The unit map of the land and its condition in the permit area of PT. Mitra Karya Sentosa.

SPT	Jenis Tanah	Lereng (%)	Fisiografi	Kelerengan	Kelas butir	Drainase	Luas *)	
							Ha	%
SPT 1	*Typic dystrudept (D)* *Typic epiaquept (F)* *Typic hapludult (M)*	0-8 %	Dataran Berombak	Datar sampai dengan landai	Halus, agak halus, sedang	Baik, sedang, agak terhambat	5792,88	59,83
SPT 2	*Typic Hapludult (D)* *Typic plinthudult (F)* *Typic Dystrudepts (M)*	15 -25 %	Dataran Bergelombang	Landai, agak curam	Agak halus, sedang	baik	2775,06	28,66
SPT 3	*Typic Hapludult (D)* *Typic plinthudult (M)*	25 -40 %	Perbukitan cukup tertoreh	Agak curam sampai curam	Agak halus, sedang	baik	1114,65	11,51
JUMLAH							9682,59	100 %

*) The calculated area is the area of the analysis using GIS tools. There is a possibility that there is a discrepancy with the area used as a legal reference in the company due to an error in the GIS system

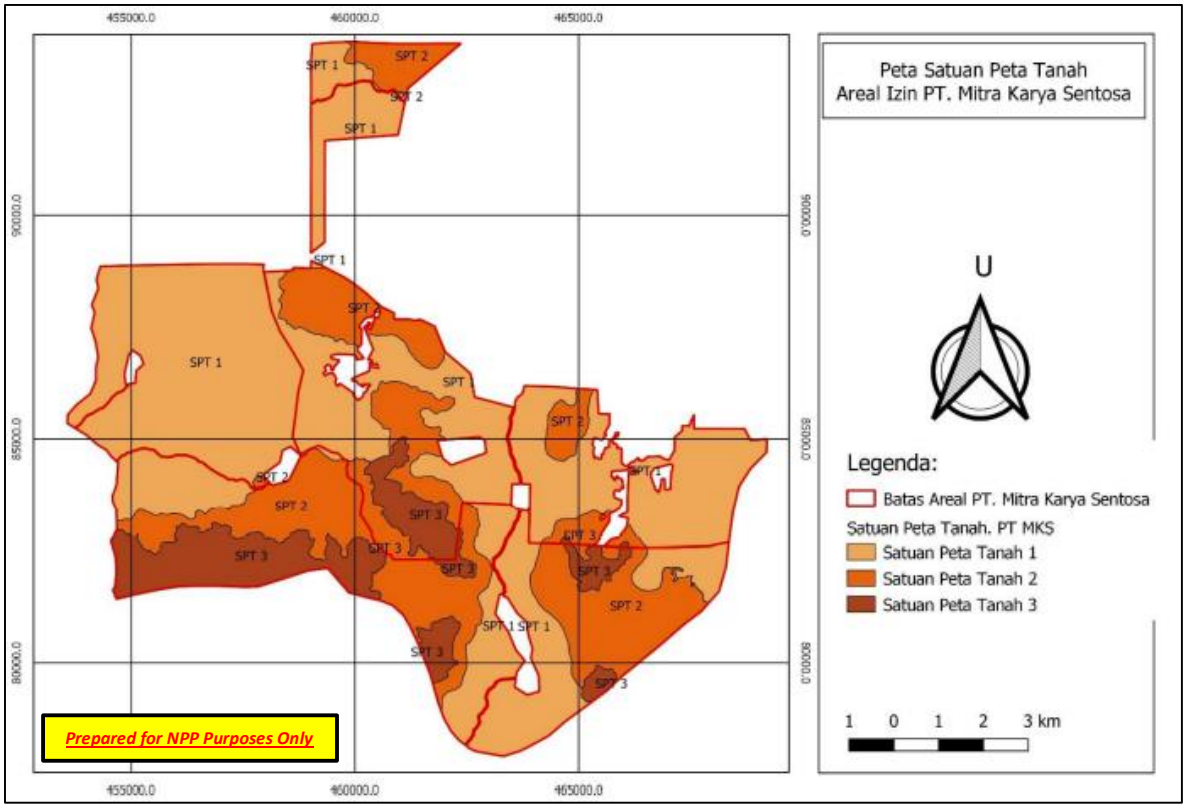


Figure 16. Map of land units in the permit area of PT. Mitra Karya Sentosa

Within the permit area of PT. MKS is located at an altitude ranging from 20 – 211 m above sea level, while in the surroundings it ranges from 20 – 306 m above sea level. Based on the slope class, the slope class within the permit area of PT. MKS ranges from flat to very steep (0 - >40%); while the surrounding area ranges from flat to very steep (0 - >40%).

Table 26. Area and Percentage of slopes in and around the permit area of PT. MKS

No.	Kemiringan Lereng		Luas (ha)		
	%	Keterangan	Di dalam Areal Izin PT. MKS	Di sekitar Areal Izin PT. MKS	Total
1	0 - 8	Datar	6.050,05	1.431,58	7.481,58
2	8 – 15	Landai	1.284,28	16.391,61	17.675,61
3	15 – 25	Agak curam	1.239,54	1.043,34	2.282,34
4	25 – 40	Curam	738,80	1.858,04	2.596,04
5	>40	Sangat curam	378,33	501,09	879,09
Total			**9.689,00**	**21.225,67**	**30.914,67**

Source: The results of the 30 m SRTM (USGS) DEM analysis in 2019.

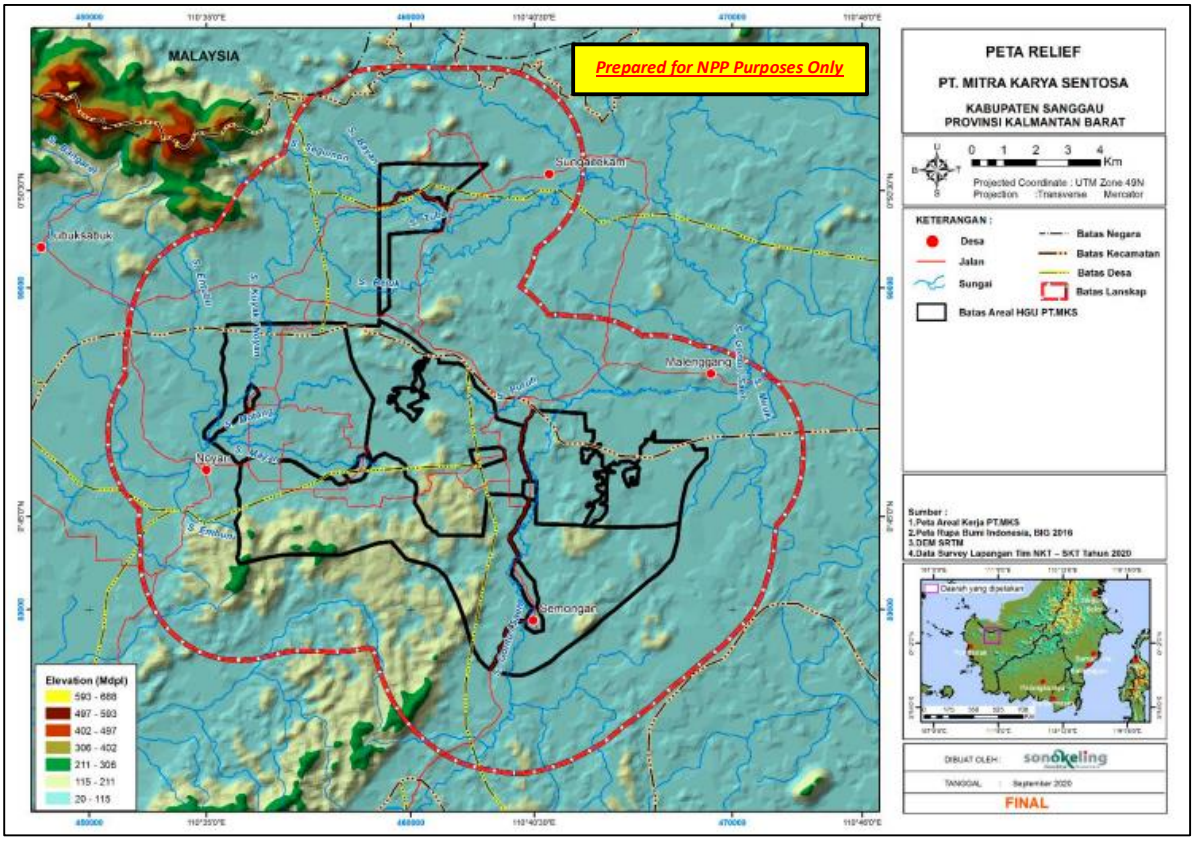


Figure 17. Topographic maps in and around the PT. MKS

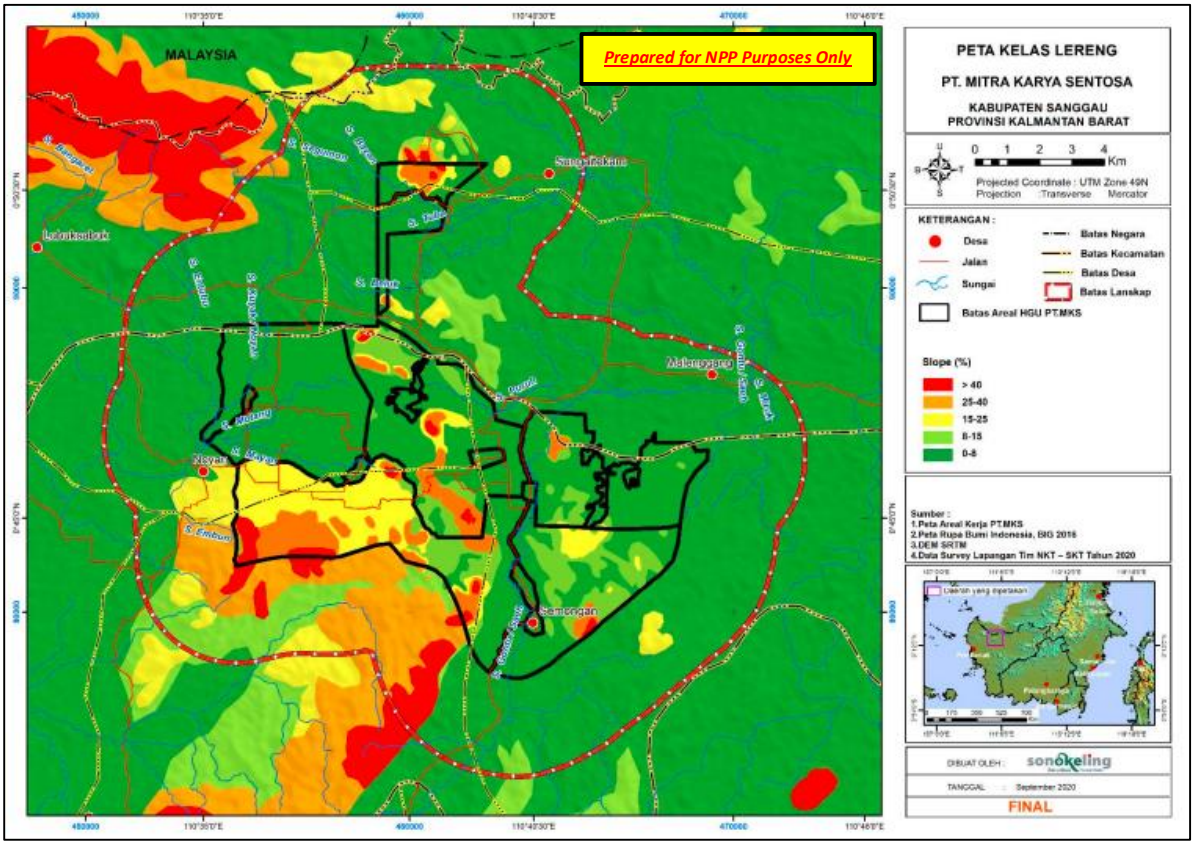


Figure 18. Slope Class Map in and around the PT. MKS

3.4. Carbon Stock and Green House Gas (GHG) Assessments

Carbon Stock Assessment

CSA and GHG analysis use spatial data covering an area of 9,686.30 ha. The main data used for land cover classification in carbon stock assessment at PT. MKS is a satellite imagery (satellite imagery) Sentinel 2. To improve the visual quality of the image, the histogram adjustment process for radiometric correction is carried out. As for image improvement using color composite method to produce images that are easy to use in interpretation. The initial land cover classification used the RSPO standard land cover classification system. Then groundtruthing was carried out based on the distribution of land cover and redelineation and relabeling were carried out on the initial land cover map which was validated with direct checking data. The distribution of the final land cover class and its area at PT. MKS is presented in Figure 18 and Table 27.

Based on the final land cover analysis, in the plantation area of PT. MKS at the time of the carbon stock assessment there were 9 land cover classes. The land cover classes include disturbed forest, shrubland, mix rubber plantation, oil palm plantation, dry cultivation land, open land, settlement, rice field and water bodies.

Table 27. Distribution and area of final land cover in PT. Mitra Karya Sentosa

No	Land Cover	Area	
		Ha	%
1	Disturbed forest	108,54	1,12%
2	Shrubland	1.016,35	10,49%
3	Rubber plantation	1.703,21	17,58%
4	Oil palm plantation	6.451,64	66,61%
5	Dry cultivation land	41,41	0,43%
6	Rice field	49,45	0,51%
7	Open land	270,49	2,79%
8	Settlement	44,75	0,46%
9	Water bodies	0,46	0,00%
	Total	**9.686,30**	**100%**

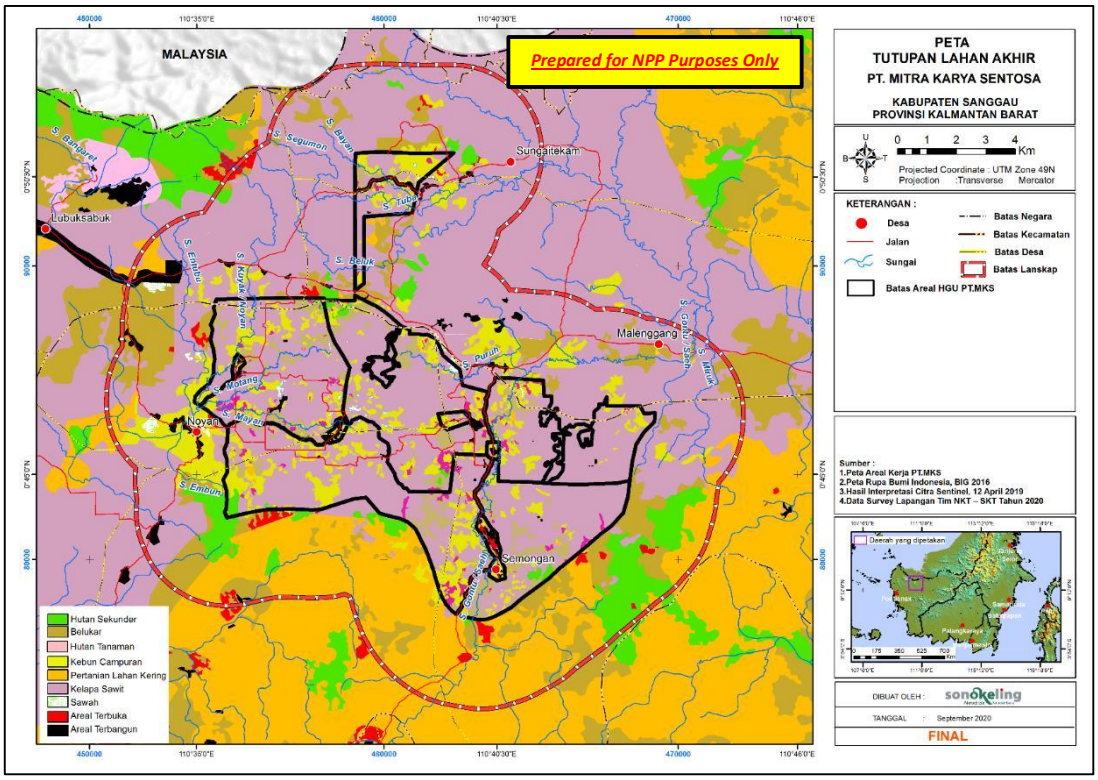


Figure 19. Final land cover map at PT. Mitra Karya Sentosa

Based on the final land cover results obtained, then a Cross-tabulation *(Crosstab)* process is carried out on the relationship between the results of the national land cover classification (Gunarso, et al. 2013 and BSN 2010) and the HCS approach land cover classification (HCSA) as presented in Table 28.

Table 28. Crosstab Land Cover Class and Land Cover Classification HCS Approach in Carbon Stock Assessment in PT. Mitra Karya Sentosa.

No	Land Cover Class	HCS Approach Land Cover Classification	Area	
			Ha	%
HCS Class				
1	Disturbed Forest	High, Medium and Low Density Forest (HDF/MDF/LDF)	78,66	0,81%
		Young Regeneration Forest (YRF)	29,88	0,31%
Total HCS Class			**108,54**	**1,12%**
Non HCS Class				
2	Shrubland	Shrubland (S)	1.016,35	10,49%
3	Rubber plantation	Plantation-Agriculture (AGRI)	8.245,71	85,13%
4	Oil palm plantation			
5	Dry cultivation land			
6	Rice field			
7	Open land	Open land (OL)	270,49	2,79%
8	Settlement	Others	45.21	0,47%
9	Water bodies			
Total Non HCS Class			9.577,76	98,88%
Sub Total			**9.686,30**	**100,00%**

Based on Toolkit Module 4 (Forest and Vegetation Stratification) 2018, the general guideline is that at least 50 samples be collected for each land cover class (Congalton and Green 1999). For larger areas (more than 400.000 ha) it is recommended that at least 75 samples be collected for each land cover class (Congalton and Green 1999). The number of sample plots for Forest (HDF/MDF/LDF) is 53 plots and YRF is 50 plots, so the number of plots is in accordance with the general guidelines that apply. From the results of the inventory, the average carbon stock in various land cover classes in the sample plots at PT. Mitra Karya Sentosa is presented in Table 29.

Table 29. Average Carbon Stock in Plots in HCS Land Cover Classification

Land Cover Classification	Number of Plots	Area (Ha)	Average Carbon Stock	Standard Error	Trust Limit (90%)	
					Lower Limit	Upper Limit
			tC/Ha			
HCS Class						
High, Medium and Low Density Forest (HDF/MDF/LDF)	53	2.65	130.35	3.78	124.01	136.68
Young Regeneration Forest (YRF)	50	2.50	54.73	3.89	48.21	61.26
Non HCS Class						
Shrubland (S)	21	1.05	22.32	6.01	11.96	32.67
Open land (OL)	14	0.70	4.91	7.35	-8.11	17.93
Plantation-Agriculture (AGRI)	26	1.30	51.40	5.40	42.18	60.62

The average carbon stock for High, Medium and Low Density Forest cover (HDF/MDF/LDF) has the highest value compared to other land covers. This shows the density of vegetation in the dominant tree class that affects the total carbon stock in an area.

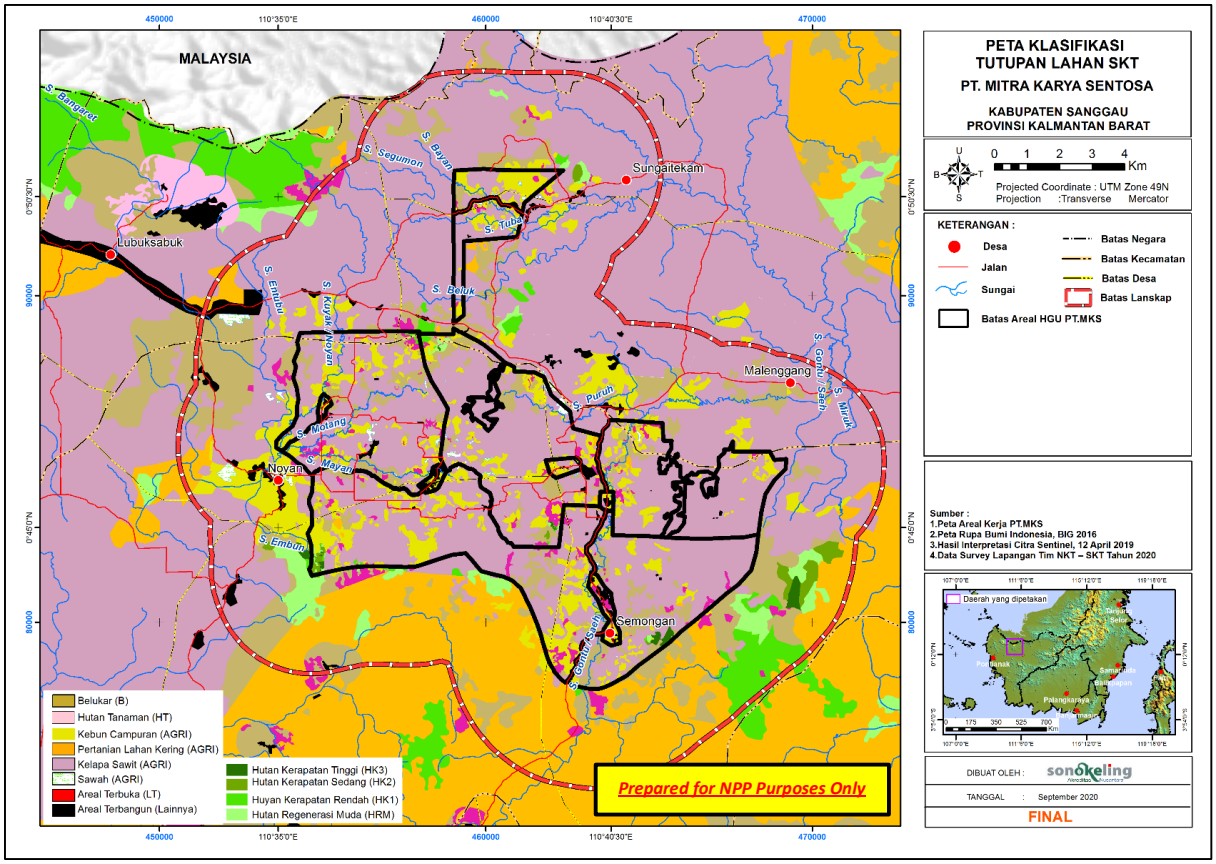


Figure 20. HCS Land Cover Classification Map at PT. MKS.

The total carbon stock in PT. MKS is the total value of the total carbon stock in each land cover class. Analysis of total carbon stock in various land cover classes at PT. MKS, presented in Table 25. Based on the table, the total amount of carbon stock in the area of PT. MKS amounted to 459.731,30 tons C, where the Plantation-Agriculture (AGRI) class was the class with the most dominant carbon stock, which was 423.829,49 tons C.

Table 30. Total Carbon Stock in PT. MKS

Land Cover Classification	Area (ha)	Average Carbon Stock (ton C/ha)	Total Carbon Stock (ton C)
High, Medium and Low Density Forest (HDF/MDF/LDF)	78,66	130.35	10.253,33
Young Regeneration Forest (YRF)	29,88	54.73	1.635,33
Shrubland (S)	1.016,35	22.32	22.685,03
Open land (OL)	270,49	4.91	1.328,11
Plantation-Agriculture (AGRI)	8.245,71	51.40	423.829,49
Others	45,21	-	-
Total			**459.731,30**

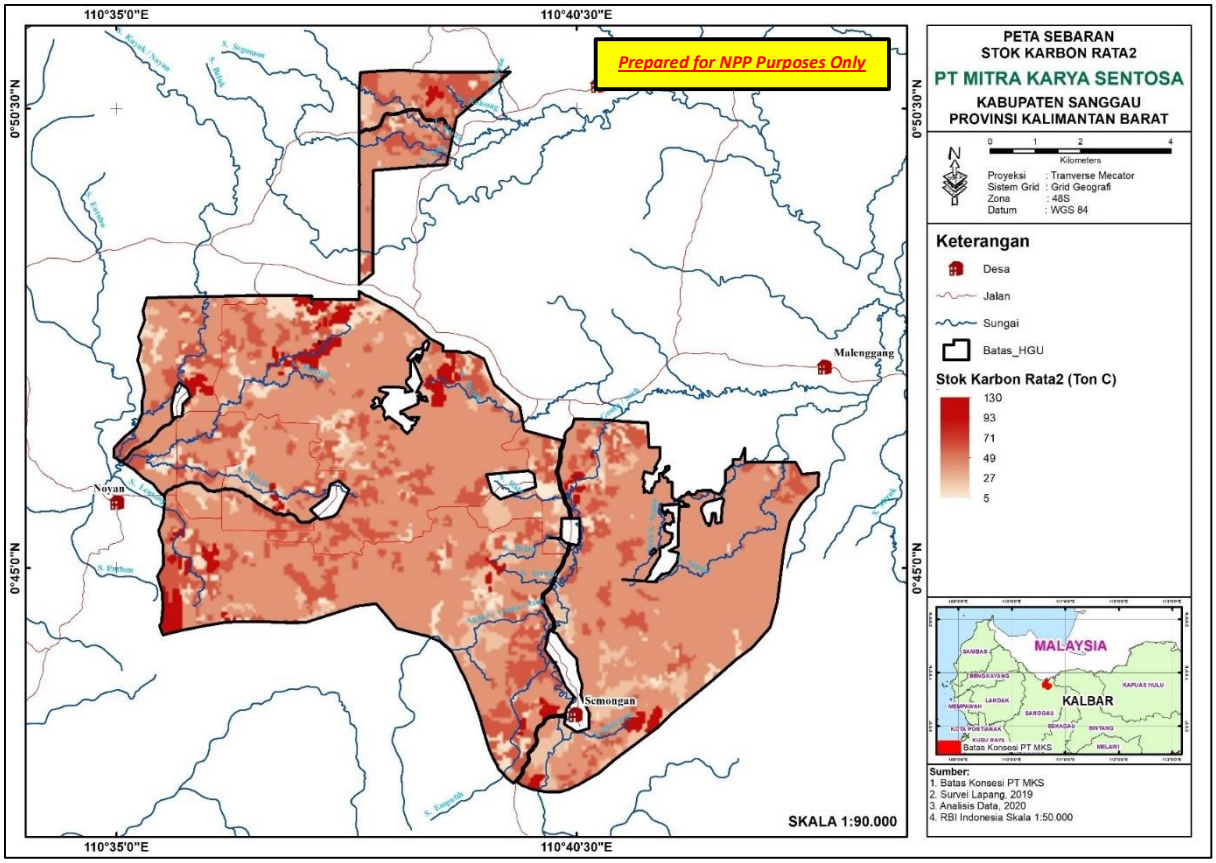


Figure 21. Map of Average Carbon Stock in PT. Mitra Karya Sentosa

GHG Assessment

The new development scenario in the PT MKS area is carried out to guide the selection of an optimal development plan by considering areas that need to be avoided in development and the choice of operational practices that lead to the minimization of GHG emissions. Scenarios are hypothetical projections of land use options and plant design. This allows potential future GHG emissions to be estimated. Table 31 shows the new development scenario in the PT MKS area.

Table 31. New development scenario in PT MKS' oil palm plantation area.

Scenario	Explanataion
Scenario 1 (S1)	▪ All potential land cover for new plantings is cleared for oil palm. ▪ All disturbed forests will be preserved ▪ No land clearing in identified HCV-HCS areas ▪ No methane capture facilities are planned for the palm oil mill ▪ Planned plant area = 4.115,60 ha ▪ Planned conservation area = 598.61 ha
Scenario 2 (S2)	▪ All potential land cover for new plantings was cleared for oil palm. ▪ All disturbed forests will be preserved ▪ No land clearing in identified HCV-HCS areas ▪ There is a methane capture facility planned for the palm oil mill using the burning method ▪ Planned plant area = 4.115,60 ha ▪ Planned conservation area = 598.61 ha

		S1	S2
Areas to avoid for new development	HCV-HCS	598.61 ha	598.61 ha
Potential areas for new planting	New planting area plan	4.115,60 ha	4.115,60 ha
POME treatment	Conventional treatment	Yes	No
	Methane capture	No	Yes

For each scenario, GHG emissions in the PT MKS area are calculated using the RSPO New Development GHG Calculator to determine projected GHG emissions associated with the scenario options developed. Figure 21 shows a summary of the calculation results of GHG emission projections in the PT MKS area for Scenario 1 (S1). While Figure 22 shows a summary of the results of the calculation of GHG emission projections in the PT MKS area for Scenario 2 (S2).

Scenario 1 (S1)

Summary of results

Summary of results

Summary of results

Field emissions & sinks (Assumes vigorous growth for oil palm - for use by large scale operatio

	t CO_2e	t CO_2e/ha	t CO_2e/t FFB
Land clearing	78.596,45	8,65	0,84
Crop sequestration	-85.075,99	-9,36	-0,91
Fertilisers	10.770,32	1,19	0,12
N2O	9.585,97	1,05	0,10
Field fuel	888,64	0,10	0,01
Peat	0,00	0,00	0,00
Conservation credit	-5.489,27	-0,60	-0,06
Total	9.276,13	1,02	0,10

Mill emissions & credit	tCO_2e	t CO_2e/ha	tCO_2e/tFFB
POME	18.294,26	2,01	0,20
Mill fuel	649,25	0,07	0,01
Purchased electricity	0,00	0,00	0,00
Credit (excess electricity exported)	0,00	0,00	0,00
Credit (sale of biomass for power)	0,00	0,00	0,00
Total	18.943,50	2,08	0,20

Total emissions, tCO_2e (field and mill)	28.220
Allocation:	
t CO_2e/t CPO	1,01
t CO_2e/t PK	1,01

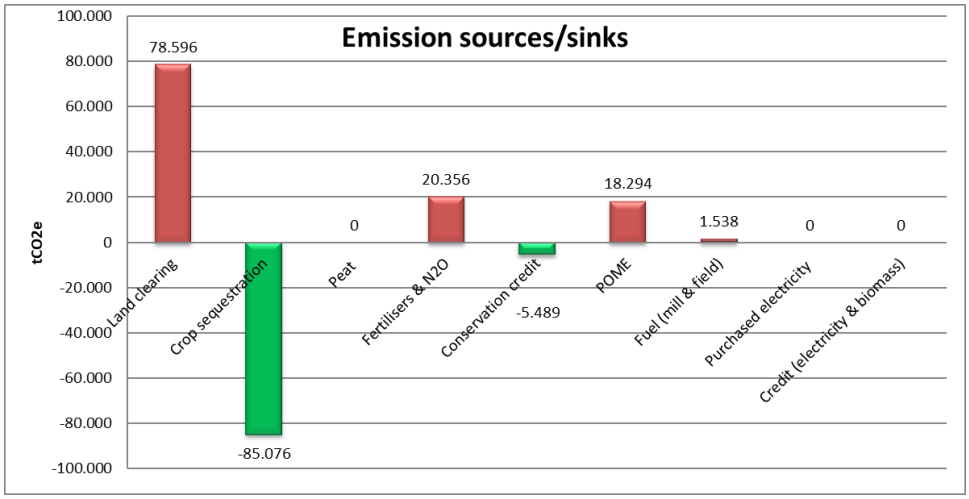


Figure 22. Summary of GHG emission projection calculation (tCO2e) for new development plan in PT MKS area for Scenario 1 (S1)

Scenario 2 (S2)

Summary of results

Summary of results

Summary of results

Field emissions & sinks (Assumes vigorous growth for oil palm - for use by large scale operations)

	t CO_2e	t CO_2e/ha	t CO_2e/t FFB
Land clearing	78.596,45	8,65	0,84
Crop sequestration	-85.075,99	-9,36	-0,91
Fertilisers	10.770,32	1,19	0,12
N2O	9.585,97	1,05	0,10
Field fuel	888,64	0,10	0,01
Peat	0,00	0,00	0,00
Conservation credit	-5.489,27	-0,60	-0,06
Total	9.276,13	1,02	0,10

Mill emissions & credit	tCO_2e	t CO_2e/ha	tCO_2e/tFFB
POME	3.451,03	0,38	0,04
Mill fuel	649,25	0,07	0,01
Purchased electricity	0,00	0,00	0,00
Credit (excess electricity exported)	0,00	0,00	0,00
Credit (sale of biomass for power)	0,00	0,00	0,00
Total	4.100,27	0,45	0,04

Total emissions, tCO_2e (field and mill)	13.376
Allocation:	
t CO_2e/t CPO	0,48
t CO_2e/t PK	0,48

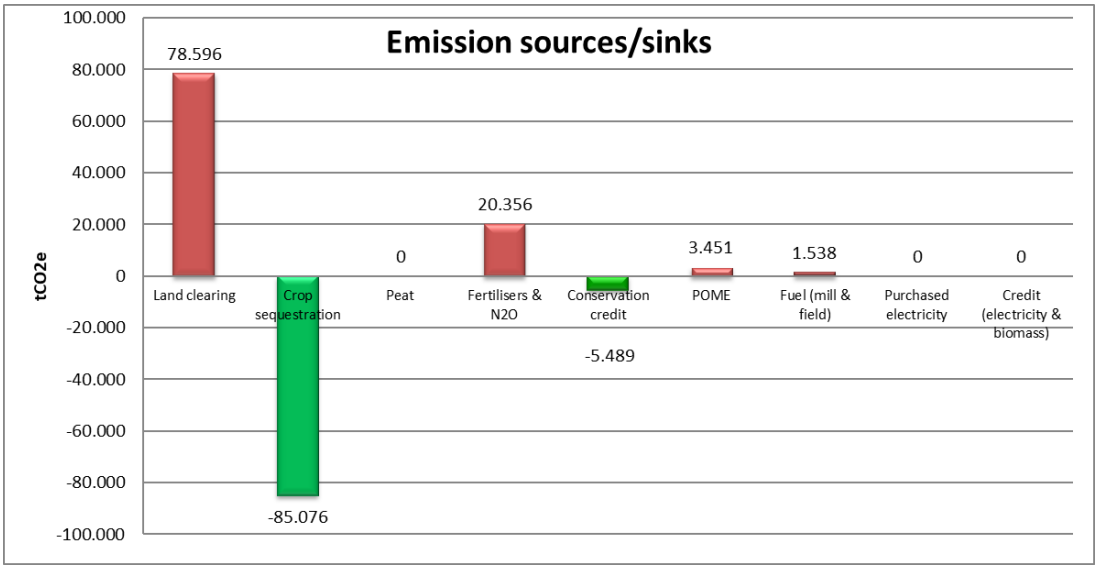
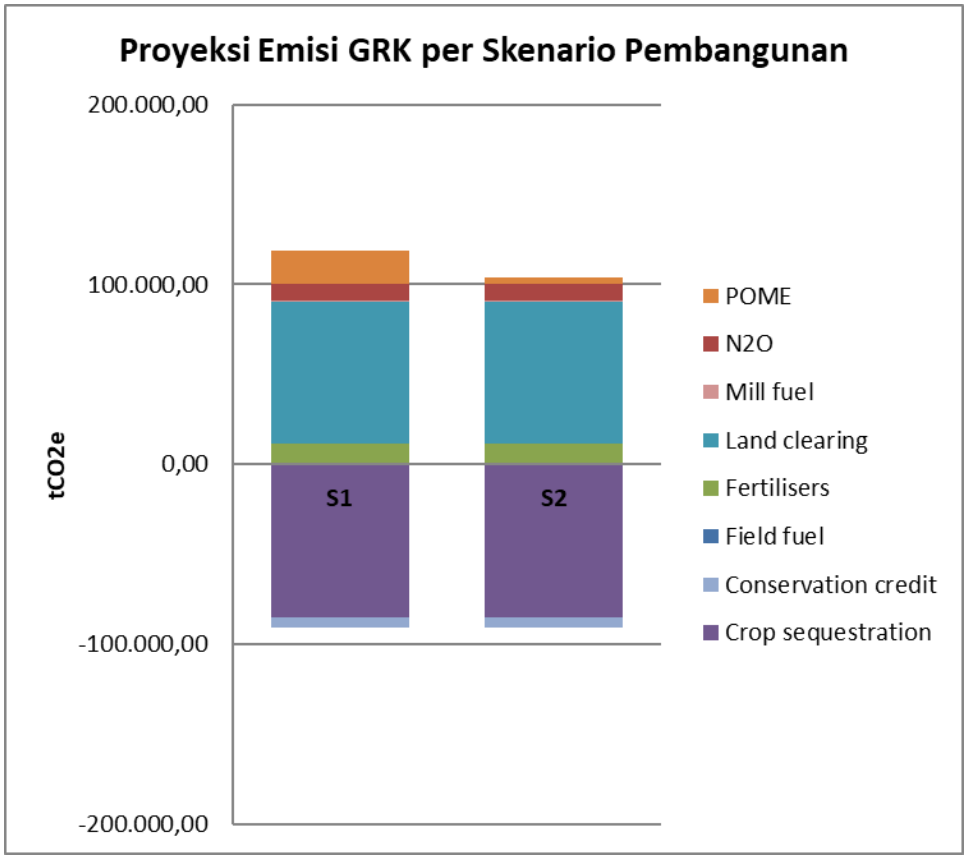


Figure 23. Summary of GHG emission projection calculation (tCO2e) for new development plan in PT MKS area for Scenario 2 (S2)



Emisi GRK (Ton CO2e)	Scenario 1 (S1)	Scenario 2 (S2)
Land clearing	78.596,45	78.596,45
Crop sequestration	-85.075,99	-85.075,99
Fertilisers	10.770,32	10.770,32
N2O	9.585,97	9.585,97
Field fuel	888,64	888,64
Conservation credit	-5.489,27	-5.489,27
POME	18.294,26	3.451,03
Mill fuel	649,25	649,25
Net Emission	**28.219,63**	**13.376,40**

Figure 24. Comparison of GHG emission projections (tCO2e) for the two Scenarios of the new development plan in the PT MKS area

Based on the calculation results of GHG emission projections using the RSPO New Development GHG Calculator, Scenario 1 (S1) results in Net GHG Emissions of 28.219,63 (tCO2e) while Scenario 2 (S2) produces Net GHG Emissions of 13.376,40 (tCO2e).

Taking into account the results of the GHG emission projections above and based on the consideration that in the near future PT MKS does not yet have a plan to build methane capture, then Scenario 1 (S1) is the optimal development option at PT. MKS. In Scenario 1 (S1), GHG emissions from land clearing and operational activities will be minimized by sequestration from conservation areas (HCV-HCS Areas) and oil palm plantations. In addition, land clearing plans for new plantings will prioritize land cover with low carbon stocks such as shrubland, rubber plantations, dry cultivation land, rice fields and open land.

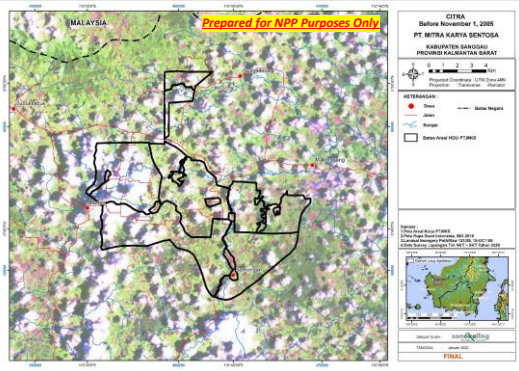
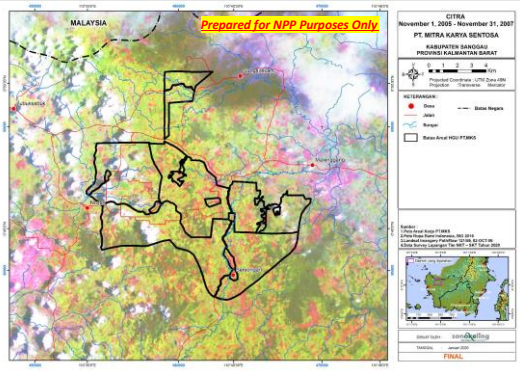
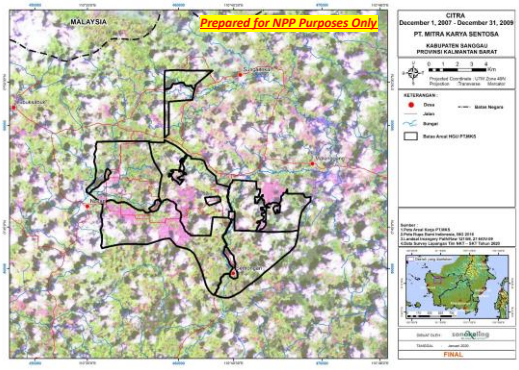
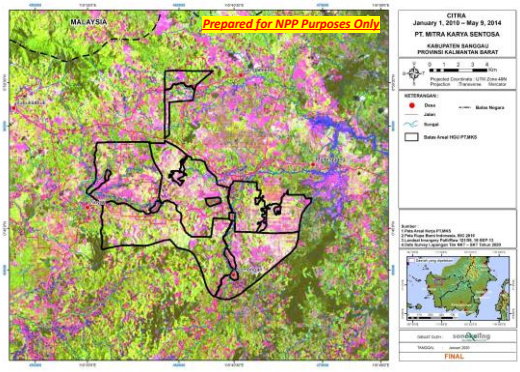
3.5. Land Use Change Analysis (LUCA)

In the LUCA assessment, the change detection analysis is based on a review of company documents and in-depth interviews. Review of company documents, including permit documents and HCV reports. In-depth interviews with key respondents, including local community leaders and long-standing company staff, related to land cover baseline, history of land ownership and activities, land clearing activities and community cultivation patterns.

Based on the results of interviews with the surrounding community regarding the history of the land, the majority of the people living around the permit area are farmers, both farmers in gardens, fields and rice fields. So do not be surprised if the development of oil palm plantations is carried out on community land in the form of fields, mixed gardens and rubber plantations. The pattern of land use or utilization by the community has changed, from forests to fields, then developing into rubber and oil palm plantations. Before rubber and oil palm became the main commodities for farming, local people used the land to grow upland rice, vegetables and seasonal fruits.

Changes in land use patterns carried out by residents, generally on the grounds that gardening, land and plant management are easier to do. In addition, garden produce is considered much more profitable than agricultural produce. Another reason is that gardening will give residents time to re-open the land while waiting for the garden plants to produce.

Table 32. Pre-processed georeferenced satellite images for entire concession area for each time of clearance period and additional cut-off periods.

	
Before November 1, 2005	November 1, 2005 - November 31, 2007
	
December 1, 2007 - December 31, 2009	January 1, 2010 – May 9, 2014

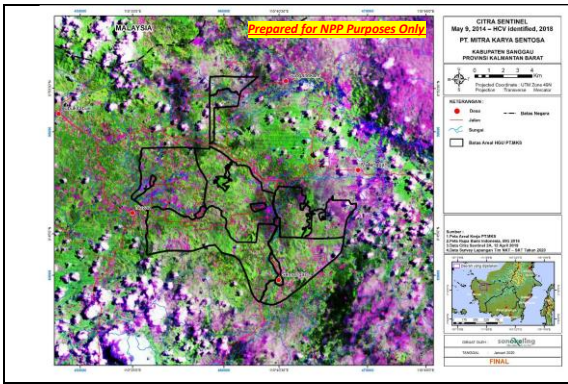
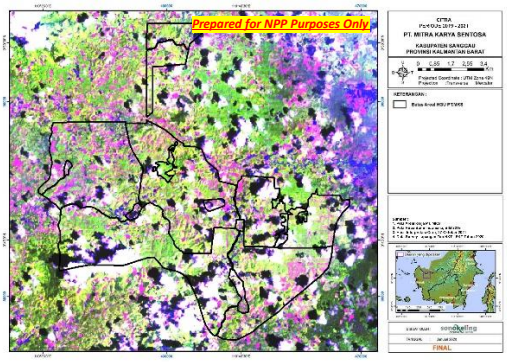
	
May 9, 2014 – HCV identified, 2019/2020	2019 – 2021

Table 33. Land cover maps after image processing

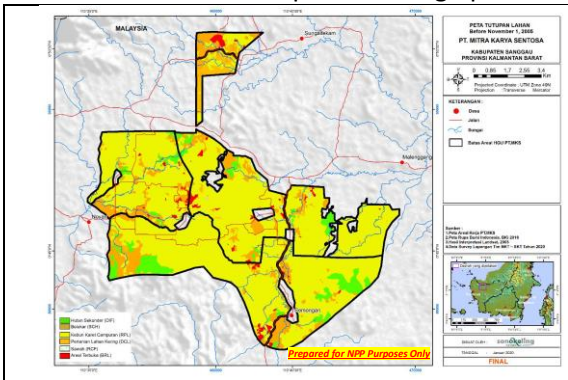
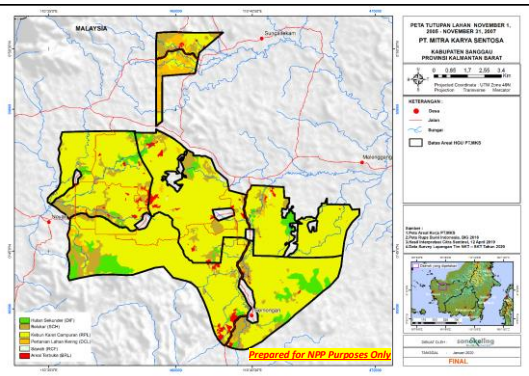
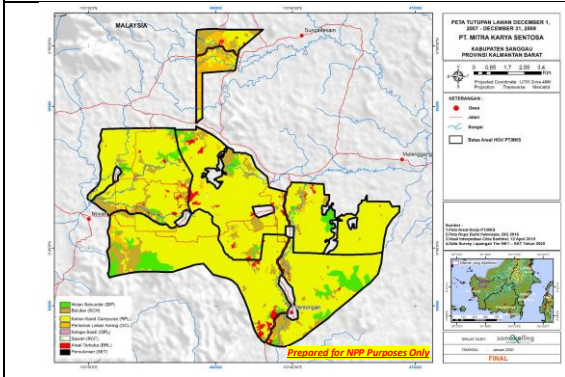
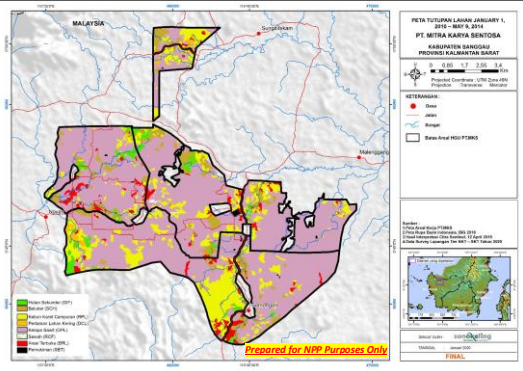
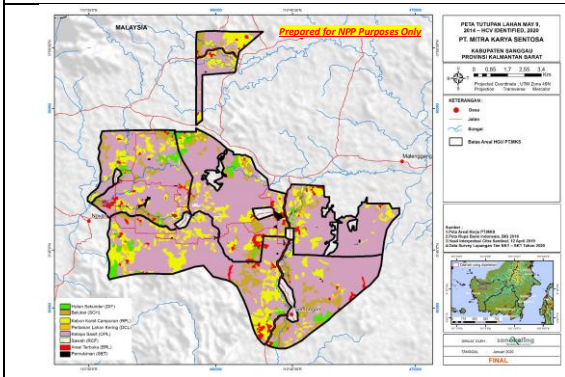
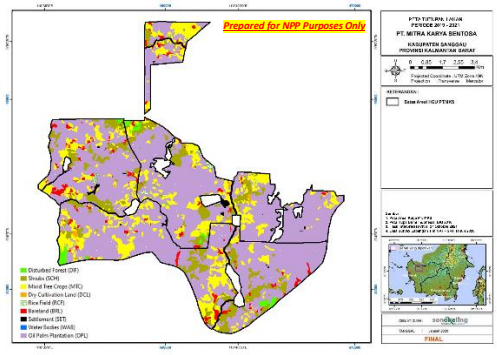
	
Before November 1, 2005	November 1, 2005 - November 31, 2007
	
December 1, 2007 - December 31, 2009	January 1, 2010 – May 9, 2014
	
May 9, 2014 – HCV identified, 2019/2020	2019 – 2021

Table 34. Historical analysis of land use change at PT. MKS

Classified Class	Reference Class					
	Before Nov. 1st 2005	Nov. 1st 2005 - Nov. 31st 2007	Dec. 1st 2007 - Dec. 31st 2009	Jan. 1st 2010 – May 9th 2014	May 9th 2014 – HCV Identified - Ground truthing 2019	2019 – 2021
Bareland (BRL)	162.86	165.08	1,735.19	324.26	270.49	277.96
Disturbed Forest (DIF)	579.54	579.54	416.70	245.98	108.54	108.54
Dry Cultivation Land (DCL)	268.64	321.30	287.91	80.08	41.41	41.41
Mixid Tree Crops (MTC)	7,446.48	7,447.20	6,084.42	1,590.75	1,703.21	1,701.59
Oil Palm Plantation (OPL)	-	-	-	6,651.15	6,451.64	6,451.64
Rice Field (RCF)	22.01	22.01	34.12	36.16	49.45	49.45
Settlement (SET)	-	-	2.14	20.41	44.75	42.22
Shrubs (SCH)	1,206.31	1,150.72	1,125.37	737.05	1,016.35	1,013.04
Water Bodies (WAB)	0.46	0.46	0.46	0.46	0.46	0.46
Total	**9,686.30**	**9,686.30**	**9,686.30**	**9,686.30**	**9,686.30**	**9,686.30**

Based on the analysis of land use change, from the beginning of the period (2005) to the end of the period of obligation (2020), it is known that in the area of PT. MKS contains two categories of vegetation coefficients, namely a coefficient of 0.7 which describes disturbed forest, and a coefficient of 0.0 which describes non-forest.

During the period November 2005 – 2007, land use changes were made by the surrounding community (non-company) for cultivation activities in forest and non-forest areas. This is reflected in the condition of land cover in that period where community cultivation areas such as Mixed Plantation and Dry Cultivation Land.

The period of December 2007 – 2009 was a transition period in which the community began to cultivate intensively (gardening). Some areas of mixed gardens that have been managed and are less productive have been cleared by land owners. The land clearing is intended for oil palm and rubber commodities.

Changes in land use patterns (from farming to gardening) continue. Where based on the monitoring of land cover conditions in the period January 2010 – May 2014, it is known that more and more MTC and DCL areas are being converted by the community into oil palm plantations. Not only clearing land in the MTC and DCL areas, the community also clears land in forest areas and other non-forest areas. During this period, land clearing was also carried out by the company. The land clearing process by the company was carried out after the first HCV assessment was carried out (2010). Land clearing is carried out in non-HCV areas that have been compensated.

Meanwhile, in the last period of May 2014 – HCV reassessment, the process of developing oil palm plantations was carried out by the company and the community. The development of oil palm plantations by the company is carried out in areas of community cultivation land that have previously been compensated. Of course, the areas the company is developing are non-HCV areas. Meanwhile, the development area carried out by the community comes from unproductive cultivation areas and

bush areas which are former fields. They reopened the area and then turned it into a community oil palm plantation.

In the period 2019 – 2021 there was no increase in oil palm plantations by the company. This is because the company has implemented a moratorium policy on new land clearing until the NPP process is complete. Changes in land cover that occurred during this period were the change from shrub to bareland (SCH > BRL) and mixed tree crop to bareland (MTC > BRL). Another form of change in land cover conditions is the existence of several new mixed garden areas which were previously open land and shrubs. All changes in land cover conditions that occurred in this period were caused by land owners suspected of being for cultivation purposes.

Table 35. Landuse change analysis

Period Nov. 1st 2005 - Nov. 31st 2007 - *in hectares*

Non-Corporate

November 2005	Land Cover Class	November 2007							Total 2005
		BRL	DIF	DCL	MTC	RCF	SCH	WAB	
	BRL	137.57		25.29					162.86
	DIF		579.54						579.54
	DCL	2.05		266.59					268.64
	MTC				7,446.48				7,446.48
	RCF					22.01			22.01
	SCH	25.46		29.42	0.72		1,150.72		1,206.31
	WAB							0.46	0.46
	Total 2007	**165.08**	**579.54**	**321.30**	**7,447.20**	**22.01**	**1,150.72**	**0.46**	**9,686.30**

Period Dec. 1st 2007 - Dec. 31st 2009 - *in hectares*

Non-Corporate

Desember 2007	Land Cover Class	Desember 2009								Total 2007
		BRL	DIF	DCL	MTC	RCF	SET	SCH	WAB	
	BRL	112.09		3.82		7.57	0.22	41.37		165.08
	DIF	131.60	416.70		26.70			4.55		579.54
	DCL	18.41		268.40	0.81	4.54		29.14		321.30
	MTC	1,388.36			6,056.91		1.92			7,447.20
	RCF					22.01				22.01
	SCH	84.72		15.69				1,050.31		1,150.72
	WAB								0.46	0.46
	Total 2009	**1,735.19**	**416.70**	**287.91**	**6,084.42**	**34.12**	**2.14**	**1,125.37**	**0.46**	**9,686.30**

Period Jan. 1st 2010 – May 9th 2014 - *in hectares*

Corporate

Januari 2010	Land Cover Class	Mei 2014	Total 2010
		OPL	
	BRL	1,325.13	1,325.13
	DIF	140.49	140.49
	DCL	107.85	107.85
	MTC	3,195.25	3,195.25
	SCH	99.59	99.59
	Total 2014	**4,868.30**	**4,868.30**

Non-Corporate

Januari 2010	Land Cover Class	Mei 2014									Total 2010
		BRL	DIF	DCL	MTC	OPL	RCF	SET	SCH	WAB	
	BRL	133.62		1.67		270.13	1.75	0.78	2.12		410.06
	DIF		267.12			3.27			5.81		276.21
	DCL	25.24		67.29		83.42	0.29		3.83		180.06
	MTC	59.19			2,060.49	738.57		11.80	19.13		2,889.17
	RCF						34.12				34.12
	SET							2.14			2.14
	SCH	113.93		11.12	86.96	63.77		5.70	744.29		1,025.77
	WAB									0.46	0.46
	Total 2014	**331.99**	**267.12**	**80.08**	**2,147.44**	**1,159.15**	**36.16**	**20.41**	**775.18**	**0.46**	**4,817.99**

Period May 9th 2014 – HCV Identified - Ground truthing 2019

Corporate

	Land Cover Class	Date of HCV Assessment	Total 2014
		OPL	
Mei 2014	BRL	29.46	29.46
	DCL	22.99	22.99
	MTC	83.49	83.49
	OPL	4,868.30	4,868.30
	SCH	39.18	39.18
	Total Date of HCV Assessment	**5,043.42**	**5,043.42**

Non-Corporate

	Land Cover Class	Date of HCV Assessment									Total 2014
		BRL	DIF	DCL	MTC	OPL	RCF	SET	SCH	WAB	
Mei 2014	BRL	161.10		10.70	14.13	36.20	2.43	6.92	71.04		302.52
	DIF	0.07	108.54		5.21				153.31		267.12
	DCL	0.54		26.53	0.79	25.31	3.93				57.09
	MTC	86.75		4.18	1,596.97	129.13		5.37	241.57		2,063.96
	OPL					1,159.15					1,159.15
	RCF	1.84					34.31				36.16
	SET							20.41			20.41
	SCH	20.20			86.10	58.44	8.77	12.05	550.44		736.00
	WAB									0.46	0.46
	Total Date of HCV Assessment	**270.49**	**108.54**	**41.41**	**1,703.21**	**1,408.22**	**49.45**	**44.75**	**1,016.35**	**0.46**	**4,642.88**

Period 2019 - 2021

Corporate

	Land Cover Class	2021	Total 2019
		OPL	
2019	OPL	5,043.42	5,043.42
	2021	**5,043.42**	**5,043.42**

Non-Corporate

	Land Cover Class	2021									Total 2019
		BRL	DIF	DCL	MTC	OPL	RCF	SET	SCH	WAB	
2019	BRL	154.54			69.29				46.66		270.49
	DIF		108.54								108.54
	DCL			41.41							41.41
	MTC	84.76			1,617.66				0.79		1,703.21
	OPL					1,408.22					1,408.22
	RCF						49.45				49.45
	SET	2.54						42.22			44.75
	SCH	36.13			14.64				965.59		1,016.35
	WAB									0.46	0.46
	Total 2021	**277.96**	**108.54**	**41.41**	**1,701.59**	**1,408.22**	**49.45**	**42.22**	**1,013.04**	**0.46**	**4,642.88**

There is no compensation and remediation liability according to the RSPO Remediation and Compensation Prosedure (RaCP). No operational plantation activity until PT MKS has completed the NPP Process.

3.6. FPIC Process

The FPIC process is carried out through meetings with the community and technical studies related to land tenure involving the community and stakeholders which are then followed up by mutual agreement. Stakeholders around PT MKS are land owners and rulers such as the Village Head, Village Secretary, BPD, LPM, RT Chair, Traditional Leaders, Youth Leaders, Women Leaders, Land Owners,

Villagers, Representatives of other Community Leaders, and Management or Members of the Medep Bauk Cooperative, Noyan District, Sekayam District, Community Leaders, and Religious Leaders.

The agreement reached between PT. MKS with the community includes land compensation, plantation development plans and plasma plantation development plans. In addition, the cooperation also includes the construction of public facilities and village infrastructure as well as job creation. This FPIC document records meetings in the villages of Noyan and Semongan (included in the administrative area of Noyan Regency) and the villages of Malenggang and Sungai Tekam (included in the administrative area of Sekayam Regency).

The results of the socialization meeting (through FGD or interviews) with the Village Head, Village Secretary, BPD, Head of RT, Youth Leaders, Women Leaders, Land Owners, Villagers and Representatives of other Community Leaders obtained an agreement that they accepted and approved the development of plantations and palm oil mills. They consider the importance of FPIC studies as a form of caution before opening oil palm plantations and palm oil mills. In addition, the village community accepts and understands the land compensation process carried out by the company. Existing tenure issues will be resolved by involving the village government and land owners.

From the results of the FPIC 1 process to the FPIC 5 process, it can be concluded that important points are:

a. The establishment of a "Pokja" to facilitate the process of land acquisition that already exists and is a Village Task Force needs to be maintained. The Task Force consists of: Village Government, Traditional Leaders and Representatives of other Community Leaders.
b. Participatory mapping was carried out to identify important areas associated with social HCVs (HCV 4, HCV 5 & HCV 6) and information on land ownership, land use/use, and indicative village administrative boundaries.
c. The preparation of the company's work plan will be carried out after a participatory mapping process and discussions with the community, such as socialization and realization of the land compensation process, plans to involve villagers in HCV management or monitoring, routine socialization related to plasma plantation management plans, CSR program plans for the community, and others.
d. Prepare a plan for a joint agreement or decision related to the management and monitoring plan for conservation areas (HCV) and (HCS) and plasma plantations by involving traditional leaders.

4. SUMMARY OF MANAGEMENT PLAN

4.1. Team Responsible for Developing Management Plans

In order to enable effective implementation of the programs, it is required that human resources competencies, sufficient knowledge and skills to implement the planned activities are in place. It is also essential to provide appropriate tools and facilities so that implementation of the activities can be smoothly carried out. Implementation, management and monitoring in the field will be implemented by the management of PT MKS, onsite Sustainability team and public relation team. The implementation is also supported by other team such as audit and certification team. Below is the organisational structure of the team responsible for implementation, management and monitoring in the field.

Figure 25. Organisational structure of the team responsible for implementation, management and monitoring.

4.2. Mitigate Impact SEIA

Elements to be Included for SEIA

Social management and monitoring plan aims to reduce and/or eliminate and mitigate negative impacts, social risk, and social issues related to the new development and management activities. In aaddition, it is also designed to improve the positive impact and benefits to the social. The management plan recommended based on the SIA refers to First Resources Sustainability Policy.

The FR Sustainability Policy states that FR is commited to ensure that its products are produced in a sustainable manner. This is realised through continuous balanced assessment and development of its operations while simultaneously conserving and improving the natural environment, protecting high carbon stock forests, HCV Areas, and peatlands, uplifting the socio-economic conditions and respecting the human rights of its employees and local communities.

Table 36. Social management plans

No.	Impact Sources	Monitored Significant Impact	Social Monitoring Plan	Monitoring Purpose	Social Impact Monitoring		
					Location	Period	Method
1.	**Natural Resources**						
1.1.	Land tenure and land use	• Land tenure becomes an investment for the future, resulting in increased land prices and buyers of land tend to be people from outside and the owners of capital. In the end, local residents themselves have difficulty in obtaining land. • The narrowness of agricultural land, forcing residents to use the existing land in excess in order to get a lot of results. As a result, the level of soil fertility is becoming increasingly lost and even results in decreasing agricultural yields. • The decrease in people's agricultural land due to the operation of the company and the increasing need for land for settlements, agricultural land or just for investment in the future.	• Monitoring of activities facilitating and training local institutions and village government institutions in formulating rules for buying and selling land and land management so that it will provide boundaries for land buyers or land holders in land use. • Monitoring of training and community assistance activities in developing productive farming on limited and unproductive land with agricultural intensification systems (integration of seasonal crops, five farming businesses or intercropping systems) and agricultural mechanization (use of agricultural technology). • Monitoring the facilitation of training on the development of agricultural derivative products and small-medium enterprise management and training on strengthening joint business groups (KUB) and Bumdes.	• To find out how to assist residents in maintaining the value of land prices and the narrowness of land owned by residents through strengthening customary institutions and village institutions. • To find out how to help increase farming capabilities and skills through agricultural intensification and agricultural mechanization so that income from agricultural products can increase even though the land is already narrow. • To find out the improvement of community skills in implementing the intercroping agricultural system between plantation agriculture and horticultural agriculture (eg rubber with horticultural crops or oil palm with horticultural crops).	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations
1.2.	Crop Cultivation	• The pattern of rubber and palm oil management is still traditional. • Yield of rice fields and horticulture decrease due to the land to plant it is getting narrower.	• Monitoring of assistance to the community in the development of rubber or oil palm plantations for living plants	• To find out activities help the community to carry out land intensification and increase the value of land productivity	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

		• Alleged rice yields decreasing because of water dry quickly, especially those whose fields are near oil palm plantations. • The cropping system no longer follows the seasonal calendar because farmers are pursuing agricultural yield targets • The more homogeneous the species plantation crops because they are considered the most profitable (Rubber and oil palm) which cause excess production by every inhabitant • Reduced woody plants productive and other crops because the land is converted to palm plantations • The decline in agricultural production and the types of agricultural crops grown by farmers because many farmers have switched professions to become company employees.	• Monitoring of mentoring activities on community for the development of rubber plantations on limited land with an intercroping system with secondary crops or through a system of agricultural intensification and agricultural mechanization • Monitoring of activities Helping rice farmers in making agricultural irrigation channels • Monitoring of development of a marketing system for community agricultural and plantation products in order to increase community economic growth in the agriculture and plantation sector. • Monitoring of activities Assisting the community in conserving timber and other plants that are the identity of the local area (HCV and HCS areas).	• To find out the improvement community skills in the fields of rubber plantation cultivation, agriculture and agroforestry. • To find out activities assist rice farmers in obtaining sufficient water supply during the growing season • To find out the activities of expanding the marketing network for products produced by the community in each village. • To find out about the conservation activities of productive wood plants and become the identity of the area to be preserved and maintained (HCV and HCS areas).			
1.3.	Land Economic Value	• Land is getting limited because entry of investors (oil palm plantation companies) • People have difficulty in farming because the land is getting narrower • Land that is getting less fertile, forcing farmers to use the land for other designation • Increasing land prices, making it increasingly difficult to obtain	• Monitoring of identification and mapping of areas controlled by other parties, local communities and companies. • Monitoring of activities of making boundaries between work areas and community lands. • Monitoring of socialization activities to land buyers and local residents about the	• To find out activities ensure the area of PT. MKS is protected from activities illegal by other parties. • To find out the activities of providing information to residents regarding the status of their land in the HGU area of PT. MKS. • To find out activities assist local residents in increasing yields agriculture	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

		land for both residential and agricultural land.	status of the PT. MKS and legal consequences for land buyers in forest areas. • Monitoring of the activity of making security posts to monitor the entry and exit of other parties at every entry and exit of the company. • Monitoring of development activities and fostering partnerships with the community in managing plant life. • Monitoring of mentoring activities for increasing agricultural output to the community (assistance and assistance for Agricultural Saprodi).	(assistance and assistance for Agricultural Saprodi).			
1.4.	River Ecological Value	Potential occurrence: - Water river pollution - Decreased water river debit - River silting - Erosion around the border the river due to the felling of the wood plants around the river border	• Monitoring of activities to assist in supervising and assisting the community through social programs in the form of fish cultivation and maintenance of river cleanliness as well as the planting of trees to support river erosion which are planted around the edges/borders of the river. • Monitoring of rule-making activities based on mutual consensus for the protection and preservation of rivers based on the customary law of each village and formal government law accompanied by strict sanctions for any violators.	• To find out activities to improve river environmental conditions and provide alternative sources income of the people who have been using river as a source for obtaining cash to meet needs the basis of community life. • To find out the activities of making alternative borehole water as a source of clean water for the community or making clean water pipelines to ensure the residents' needs for clean water sourced from springs around the village or boreholes.	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

			• Monitoring of mentoring and coaching activities to implement governance mutually agreed rules. • Monitoring of activities of PT. MKS in coordinating regularly and intensively with other companies and relevant government agencies to discuss long-term solutions for river security due to declining river water quality • Monitoring of periodic laboratory test activities to determine the quality of river water. • Monitoring of activities to assist residents in the provision of clean water through CSR assistance for piped clean water which can be sourced from bore wells or springs water around the village.	• To know the activities of maintaining and preserving river environment.			
1.5.	Environtment Ecological Value	The waning of sustainable use in the community and the decreasing number of flora and fauna	Carry out monitoring of rules made based on mutual consensus for the protection and preservation of rivers based on the customary law of each village and formal government law accompanied by strict sanctions for anyone who violates it	To find out the improvement of environmental conditions and provide alternatives preservation of flora and fauna	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations
2.	**Human Resources**						
2.1.	Education	Management Unit Level (internal): The results of the questionnaire analysis distributed to several company employees show that educational facilities including	• Monitoring of the activity of providing equal opportunities for every worker to participate in training or	• To find out the improvement of employee skills through training and education programs.	Office company	Conducted by periodic	Interview with employees, FGDs, field observations

		training to improve employee work skills are very weak and are in quadrant IV. This position shows that PT. MKS for this indicator is very weak and faces big challenges. The results of the interview also how that education and or training are not evenly distributed at all levels of employees	internships in accordance with their position in work. • Monitoring of coaching activities for every worker to always comply company regulations, work according to SOPs and continue to improve work quality and skills. • Monitoring of activities of providing stimulus or motivation to each worker, for example in the form of bonuses and others in order to increase employee morale. • Monitoring of activities to fulfill basic needs needed by employees in order to improve employee performance.	• To know the applicable regulations related to plantation management. • To determine the effect of giving a stimulus or motivation for each worker, for example in the form of bonuses and others to increase employee morale. • To determine the quality of employee performance.			
		Community level : Up to the time the SIA survey was conducted, the community said that the company's attention to public education still needed to be increased	• Monitoring of implementation of training or courses in accordance with the needs of the company and the community. • Monitoring of the activity of providing scholarships to outstanding students at the elementary, junior high, high school, university levels. • Monitoring of activities to provide assistance in the care and maintenance of educational facilities in each village around the PT. MKS. • Monitoring of the activities of providing scholarship assistance, honorary teacher assistance, educational infrastructure, training/	• To find out the activities increasing the competence and skills of local (village) workers. • To find out the activities follow and improve the quality of public education. • To find out the implementation of CSR activities in the field of education in the community as part of the company's social responsibility to the community, especially those affected.	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

			courses, out-of-school education etc. according to the SOP and CSR work program of PT. MKS.				
2.2.	Health	Management Unit Level (internal): - Still limited health facilities and infrastructure in the unit management of PT. MKS. - There are still employee complaints related to the limited and incomplete PPE for employees.	Carry out monitoring of activities to complete health facilities for employees, including PPE and Health insurance and BPJS employment	To determine the increase in the level of employee health.	Office company	Conducted by periodic	Interview with employees, FGDs, field observations
		Community level: Up to the time the survey was conducted, the community in several surrounding villages expect increased company attention in helping residents, especially in the provision of health facilities and infrastructure in the community	• Monitoring of procurement of health assistance activities such as mobile health center (Pusling), free medical treatment, health infrastructure assistance, assistance in providing clean water, etc. • Monitoring of activities to facilitate residents who complain that their health is disturbed due to the impact of the company's operations. • Monitoring of activities to assist residents in procuring standby cars for residents who are sick and need to be referred to the nearest puskesmas or hospital.	To find out the increase in the level of public health.	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations
2.3.	Employment	- Employment turns out become one of the most widely voiced impacts by the community. Moreover, it is considered that the company's policy in hiring local workers is not in line with the expectations of the community.	• Monitoring the prioritization of employing local workers (surrounding villages) in accordance with the company's needs. • Monitoring of activities to prioritize human resource quality improvement through education and training to	• To find out the activities to increase the absorption of local workers proportionally and according to the needs of the company. • To find out how to absorb and increase the competence of local workers.	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

		- Social jealousy with migrant workers or from outside the village - There will be more and more workers who work outside agricultural sector because agricultural land is getting narrower due to company work activities - Lack of socialization or information from companies related to labor recruitment	potential local workers according to company qualification standards. • Monitoring of activities to facilitate the development of cooperation between companies and local contractors in several jobs that match the needs of the company. • Monitoring of the activity of providing information to each village regarding the recruitment of workers to be carried out by the company.	• To know that every village knows and understands the recruitment of workers needed by the company.			
3.	**Financial Resources**						
3.1.	Public Income Sources	- Increased sources of income will have an impact on increasing expenses/needs. - Expensive rate large, will force some citizens to have income in other sectors. - The abundance of palm and rubber agricultural products in the community makes it difficult for residents to market these products.	• Monitoring of activities to provide training on agricultural intensification and agricultural mechanization to the community. • Monitoring of activities of implementing an integrated farming and livestock business system to increase people's income. • Monitoring of activities to promote SMEs in the community and open up new business opportunities as a side business for the community to increase people's income. • Monitoring of activities to provide opportunities for local communities to take advantage of business opportunities at the location of the company's activities.	• To find out the activities of optimizing people's sources of income so that they can be used productively. • To find out the activities encourage small and medium- sized businesses as well as household businesses to be able to improve products and create product marketing. • To find out the activities help market produce rubber and oil palm plantations the community by encouraging cooperatives and Bumdes as marketing agents for these products. • To find out the activities to facilitate farmers, SMEs, Cooperatives and Bumdes to be able to create new types of businesses, create marketing and become the	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

			• Monitoring of activities to assist rubber and oil palm farmers in marketing the products they produce by encouraging cooperatives and Bumdes as product marketing agents. • Monitoring of activities to provide entrepreneurship training for the community. • Monitoring of activities to coordinate with the Office of Cooperatives and SMEs related to the development and empowerment of cooperatives and small businesses in the community. • Monitoring of activities to encourage cooperatives or Bumdes to be able to become drivers of the community's economy and to create marketing for abundant community products such as rubber and oil palm plantations in the community.	driving force of the local economy.			
3.2.	Local Economic Growth	- Local economic growth uneven (only occurs in areas that directly feel the positive impact of the company economically) so that it can lead to social inequality. - With the presence of the company oil palm plantations, businesses in the agricultural sector will begin to be abandoned so that it can lead to vulnerability food.	• Monitoring of activities to provide training on agricultural intensification and agricultural mechanization to the community. • Monitoring of the activity of providing job opportunities fairly in every village area around or within the company's area. • Monitoring of activities of implementing an integrated farming and livestock	• To find out the activities of optimizing people's sources of income so that they can be used productively. • To find out the activities encourage small and medium- sized businesses as well as household businesses to be able to improve products and create product marketing. • To find out the activities to facilitate farmers, SMEs, Cooperatives and Bumdes	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

			business system to increase people's income. • Monitoring of activities to promote SMEs in the community and open up opportunities new businesses as a side business for the community to increase people's income. • Monitoring of activities to provide opportunities for local communities to take advantage of business opportunities at the location of the company's activities. • Monitoring of activities to provide entrepreneurship training for the community. • Monitoring of coordinating activities with the Office of Cooperatives and SMEs related to the development and empowerment of cooperatives and small businesses in the community. • Monitoring of activities to encourage cooperatives or Bumdes to be able to become drivers of the community's economy and to create marketing for abundant community products such as rubber and oil palm plantations in the community.	to be able to create new types of businesses, create new businesses marketing and become a driving force for the local economy.			
4.	**Physical Resources**						
4.1.	Infractructure	Open access road to PT. MKS makes it easier for the public and other outside parties to enter and control the land and commit theft of garden	• Monitoring of identification and mapping of areas controlled by other parties, local communities and companies.	To ensure the area of PT. MKS is protected from illegal activities carried out by other parties	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

		produce and commit criminal acts other.	• Monitoring of activities of making boundaries between work areas and community lands • Monitoring of socialization activities to land buyers and local residents about the status of the PT. MKS and legal consequences for land buyers in forest areas. • Monitoring of activities of making security posts to monitor exit entry of other parties at every entry point of the company. • Monitoring of development activities and fostering partnership patterns with the community in managing life plants.				
4.2.	Access to Market	The more open access to the economic center (the market) changes the mindset of the subsistence community to become commercial	• Monitoring of activities to provide training on agricultural intensification and agricultural mechanization to the community. • Monitoring of activities of implementing an integrated farming and livestock business system to increase people's income. • Monitoring of activities to promote SMEs in the community and open up new business opportunities as a side business for the community to increase public income • Monitoring of activities to provide opportunities for	• To find out the activities optimizing people's sources of income so that they can be used productively. • To find out the activities encourage small and medium- sized businesses as well as household businesses to be able to improve products and create product marketing. • To find out the activities providing facilitation to farmers, SMEs, Cooperatives and Bumdes to be able to create new types of businesses, create marketing and become the driving force of the local economy.	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

			local communities to take advantage of business opportunities in location of company activities. • Monitoring of activities to provide entrepreneurship training for the community. • Monitoring of coordinating activities with the Office of Cooperatives and SMEs related to the development and empowerment of cooperatives and small businesses in the community. • Monitoring of activities to encourage cooperatives or Bumdes to be able to become drivers of the community's economy and to create marketing for abundant community products such as rubber and oil palm plantations in the community.				
5.	**Social Resources**						
5.1.	Social Institutions	- Social institutions will getting weaker because everyone will be busy with their work and social institutions will be material oriented rather than promoting social values and public interest. - The emergence of conflicting land claims by the community through the government, local institutions and village leaders.	• Monitoring of activities optimizing the role of customary institutions and the government in helping communities make and determine land boundaries within the village concerned. • Monitoring of mentoring activities for each village to determine village boundaries and the size of each village. • Monitoring of coordinating activities with formal and informal leaders as well as with relevant agencies,	To find out the activities of establishing closer and stronger relationships with the institutions of each village and village government and other relevant agencies.	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

			including intensively with traditional institutions.				
5.2.	Social Relations	- The wider social relations are due to the increasing number of company workers from outside the region, the more difficult it will be to stem foreign cultures from entering the region and change the local cultural order that should be preserved. - The emergence of land conflicts can trigger estrangement in social relations between the community and the community and between the community and the company. - The delay in the handover of plasma has the potential to make social relations between companies and residents even more tenuous. - There is a public perception that the company does not keep its promises in the past regarding the recruitment of workers and the withdrawal of the handover of plasma has the potential to create an atmosphere of social relations increasingly tenuous and the emergence of public distrust of the company. - Problems that have not been resolved by the company related to allegations of environmental pollution, employment, plasma, licensing, etc.) will create social relations getting worse and worse tenuous - Residents perceive that so far it is considered that the company's	• Monitoring of the activity of making traditional courts for the preservation of local culture, especially culture in community land management, so it is hoped that the local wisdom of residents in land management will continue to be maintained. • Monitoring of activities to resolve various land- related conflicts together customary institutions and local government. • Monitoring of activities to provide clarity to the participants of the plasma program regarding profit sharing, when to take credit, and so on so that plasma participants understand when they will receive plasma profit sharing. • Monitoring of an activity that prioritizes local residents in recruiting workers and informing the village government regarding the recruitment plan workforce by the company. • Monitoring of activities to accommodate public concerns or doubts about the company's operational plans and realization. • Monitoring of activities to maintain good relations and communication with	• To find out the activities forge a closer and stronger relationship between the company with the community, social actors in each village, customary institutions and village government and other relevant agencies. • To know the activities of providing information related to plasma to the community so that the community understands when they get plasma profit sharing and why they have not received plasma profit sharing which is followed by some community members • To know the activities of regrowth public trust in the company.	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

		communication with the surrounding villages is not good	traditional leaders or leaders and the government of each village in order to rebuild public trust. • Monitoring of the activity of compiling several alternative patterns of cooperation and empowerment-based social programs carried out in a participatory manner between the community and the company in the implementation of the company's operational activities. • Monitoring of problem-solving activities with or through deliberation for consensus and collectively kinship.				
5.3.	Conflict Resolution	- The existence of land acquisition activities in the past and the problems that accom and dismissal of employees by the company, allegations of environmental pollution, silting of rivers, overlapping of land in several villages and other problems. - Along with the increasing needs, it is possible that there will be more conflicts and the weakening of conflict resolution because the community will have a more individualistic attitude. - Land conflicts that occur both between communities, between villages and conflicts between communities/villages andpany it, the system of appointment	• Monitoring of mentoring activities for each customary institution, local government and other institutions in the working area of PT. MKS in facilitating residents to resolve conflicts in the community, especially those related to land management, land ownership, overlapping land and community land management systems carried out by the company. • Monitoring of activities of functioning of customary institutions and local government for the resolution of possible conflicts will occur in the community, especially related to land use and tenure issues.	To find out the activities or resolving land conflicts within the PT. MKS in accordance with applicable procedures and in accordance with customary law that applies in each village.	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations

		company can cause other social conflict.	• Monitoring of formulation activities and accommodating people's expectations of the company's operational activities. • Monitoring of the use of land conflict resolution procedures in accordance with all procedures issued by the management of PT. MKS. • Monitoring of problem-solving activities with or through deliberation for consensus and collectively kinship.				
5.4.	Mobility and Migration Population	- There was migration of people from other areas who deliberately came to several areas in the 4 study villages to earn a living in plantation companies. With this migration from outside, the population for some villages has increased and the need for land is good for housing and for agriculture will increase. - Population growth is increasing causing concern from the community that the land will be reduced again, especially for settlements. - Decreasing skilled workforce in the villages. - Emergence of labor conflict work in every village.	• Monitoring of Prioritizing activities employ local workers (surrounding villages) in accordance with the company's needs. • Monitoring of activities give priority to improving the quality of human resources through education and training for potential local workers according to company qualification standards • Monitoring of socialization of the workforce recruitment plan to the village government, leaders and local community members. • Monitoring of activities to facilitate the development of cooperation between the company and local contractors on several jobs that suit the company's needs	• To find out the activities absorption and improvement of local workforce competence. • To find out the activities of prioritizing local workers to work in the company in order to reduce the number of employees unemployment. • To know the activities of. limiting external workers in order to participate in controlling the mobility and migration of the population from outside to the study villages.	All villages	Every 6 months and conducted by periodic	Interview with the community, FGDs, field observations
5.5.	Social Threats	- Seeing the condition of the community in each village in the area around the concession of PT.	• Monitoring of activities to change existing policies and	• To find out the activity absorption and improvement of local	All villages	Every 6 months and conducted	Interview with the community, FGDs, field observations

		MKS, where Several social conflicts have now occurred a lot, so social threats are very likely to occur at any time. - Tracking back problem the handover of the plasma profit sharing carried out by the company to the residents of the four villages is very likely to cause various conflicts in the future. - Due to dissatisfaction from residents, especially plasma participants and labour problems, it is possible to cause deviant behaviour from residents which results in company losses, - The problem of overlapping land has the potential to cause conflict between citizens and companies as well as between citizens and residents. - A company's CSR program that is not yet optimal can lead to conflicts between companies and society. - There is a potential for land disputes between communities and between villages which can have an impact on in the occurrence of conflicts with the company because the boundaries of village or community land are still not clear.	adjust them to community expectations. • Monitoring of activities to sit down with the leaders of each village to discuss and formulate how to solve social problems that occur, especially those related to the operation of the company. • Monitoring of activities prioritize hiring local workers (surrounding villages) according to company needs. • Monitoring of activities to prioritize human resource quality improvement through education and training to potential local workers according to company qualification standards. • Monitoring of socialization activities for each plan to recruit workers to the village government, leaders and residents of the surrounding community. • Monitoring of activities to facilitate the development of cooperation between the company and local contractors on several jobs that suit the company's needs. • Monitoring of activities carrying out CSR activities that are tailored to the basic needs of the community. • Monitoring of activities in collaboration with village customary institutions, sub-districts and local village	workforce competence through training and education as well as coaching. • To find out the activities synergize with the government and village customary institutions in solving any problems that occur in the community regarding the business activities of PT. MKS. • To find out the activities providing clarity about the plasma of residents and when they will get the profit sharing on the plasma. • To find out the activities of carrying out the CSR mandate in accordance with the SOP or provisions that have been made by the company PT. MKS. • To find out the activities together with customary institutions and the local government, invite residents to land owners, especially those who own land in the HGU area of PT. MKS for together make boundaries land owned by residents and companies.		by periodic	

			governments in resolving any problems related to land and other actions caused by the impact of unresolved land use problems including plasma land. • Monitoring of activities to provide clarity to the plasma participating residents in each village about the current condition and position of the plasma residents as well as information on when the profit sharing will begin to be received inhabitant.				

Along with the implementation of the management plan, especially to mitigate and build communication with the stakeholders, there are 3 programs of the social management plan that are expected to be done in the first 3 years (from 2021 until 2024) and will be followed by a monitoring program to ensure that every stakeholder understands and supports the sustainable palm oil production. The following programs are:

1. Preparation of Social Management Plan
   - The accommodation of the stakeholder's problems and needs around the operational region of the social management plan, as stated in company group: “To place the community around the operational areas of FR Group as one of the significant stakeholders and participating in improving their welfare through proper community development Programs”
   - The consolidation and socialization of the purpose in sustainable palm oil production. The society will be provided with guidance on the concession boundaries and company permission as well as the explanation of land acquisition procedures that correspond to the company’s terms and conditions along with FPIC implementation
   - The involvement of stakeholders to improve society, including the implementation of CSR programs, Plasma building, and local social development.
   - Socialization activities were carried out in the early years of the activity and continued until the land acquisition process was completed and it was confirmed that there were no remaining land tenure issues. The implementation of community empowerment is carried out in line with the company's operational activities.

2. Development of the community around the company’s operational area
   - This program is implemented for the surrounding community who are directly affected by the company's activities by strengthening programs to improve the economy and community business opportunities for the existence of company operations in their area.

- Invite and explain to the public about the Plasma Program; The Empowerment Program for Local Contractors and MSMEs as well as other CSR and empowerment programs with a strategy aimed at increasing and strengthening the community's economy.
- Build communication and active participation of the surrounding community through corporate public relations programs, for example through support for community religious activities or local cultural events; commemoration of national holidays and others.
- Community development activities around the company are carried out in line with the development of the company's oil palm plantations. Plasma development is carried out after the completion of the land acquisition process, empowerment of local contractors is implemented in line with plantation development, for example the community takes part in building bridges/harvest points; road paving; workers' housing development, etc.

3. Local Employee Recruitment Programs
   - The company provides opportunities for local communities to take part and build sustainable gardens together.
   - Providing training and capacity building to local communities so that they are more professional in carrying out their work and directing them to improve their welfare.
   - This Local Workforce Absorption activity involves all relevant stakeholders, coordinates with the local village/sub-district authorities and community leaders. This activity is carried out in line with the development of plantations and factories.

To ensure the success of these programs, the company monitors every 6 months with the aim of getting feedback and taking immediate follow-up efforts to improve it as a basis for sustainable social management.

Basically the existence of the community around the company's operations is an integral part in the development of the company's plantations and factories as a whole, therefore an integrated Social Management program can be the main supporter for the success of the sustainable development of PT MKS' oil palm plantations.

Table 37. Environment management plans

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
Development Phase						
1	Erosion Enhancement	Land opening and clearing activities	• Carry out land clearing in a semi-mechanical way without burning, so as to maintain a layer of topsoil and organic left over from felling of land cover plants • Carry out land clearing and planting planning in stages • Construction of drainage channels which are equipped with sediment traps, in the channel embankments	Location management is carried out on land that has just been cleared or that has been cleared which is included in the scope of the study area that is directly/indirectly	Throughout land opening and clearing period	PT MKS

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
			planted with legumes (land crops) which function to suppress scouring/erosion due to erosion • Maintaining drainage channels and roads by hardening and leveling the road surface that has experienced erosion • Not clearing land in river border areas/ maintaining existing vegetation on river borders • Activities opening land are endeavored not to be carried out on rainy season • Pile up tree trunks (which are not used), cut slopes so that they can withstand runoff and the rate of erosion and sedimentation. • Planting pioneer trees as soon as possible on cut cliffs/earth walls in cleared locations, which have steep slopes with pioneer plants of vines that can grow, such as fast legumes	affected by project activities		
2.	Decrease in surface water quality	Land clearing and maturation	• Carry out soil and water conservation in land clearing activities • Maintaining the existence of green areas along river borders, springs and protected areas around the location of the planned activity, with the provisions: large rivers at least 100 m left and right of the river, small rivers at least 50 m left and right of the river, springs with a minimum radius of 200 m and a minimum buffer zone area of 500 m. • Carry out land clearing activities in stages and prioritize areas that are not forested. After the land is cleared, the Land Cover Crop (LCC) plant is immediately planted. • Making a sediment trap with a simple design to reduce the amount of eroded material that reaches the river body. Sediment traps are made especially on the sides of sunken roads and the edges of areas where the area is cleared. • Pile up (build up) stems, branches and twigs left over from activities land clearing that is not utilized by taking into account the hydrological aspect (surface runoff), in	Location of PT Mitra Karya Sentosa plantation activities as well as affected communities and rivers in the study area.	Management reporting every six months	PT MKS

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
			order to minimize the entry of particulates carried by surface runoff into water bodies (rivers).			
3.	Decrease in the diversity of aquatic biota species	Land clearing and maturation	• Carry out soil and water conservation in land clearing activities • Maintaining the existence of green areas along river borders, springs and protected areas around the location of the planned activity, with the provisions: large rivers at least 100 m left and right of the river, small rivers at least 50 m left and right of the river, springs with a minimum radius of 200 m and a minimum buffer zone area of 500 m. • Make a prohibition board for not doing any activities that are destructive to the river border area / green belt in the new land area	Carried out on newly opened or opened land	Management reporting every six months	PT MKS
4.	Decreasing Air Quality	Mobilization of equipment and materials	• Set the time and volume of mobilization of transport vehicles • Install a bulletin board that contains a notification about the mobilization of vehicles around the entrance and exit of the planned activity area. • Carry out equipment and material mobilization activities based on: 1. Law no. 22 of 2009 concerning Road Traffic and Transportation 2. Government Regulation no. 55 of 2012 concerning Vehicles 3. Decree of the Director General of Land Transportation No. SK.727/AJ. 307/DRJD/2004 dated April 30, 2004 concerning Technical Guidelines for the Implementation of Public Transportation of Goods on the Road 4. Decree of the Director General of Land Transportation No. SK. 726/AJ.307/DRJD/2004 dated 30 April 2004 concerning Technical Guidelines for the Implementation of Heavy Transport on the Road	Carried out in the plantation area and its surroundings	Management reporting every six months	PT MKS
		Construction of palm oil mills and	• Continuous use of anti-dust masks for factory workers or in activities close to sources of air pollution. • Regulate the speed of the vehicle	Carried out in employee settlements	Once during the construction stage	PT MKS

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
		supporting facilities	• Spraying first before carrying out physical work so that the spread of particulate dust can be localized			
5.	Noise Enhancement	Mobilization of equipment and materials	• Set the time and volume of mobilization of transport vehicles • Install a bulletin board that contains a notification about the mobilization of vehicles around the entrance and exit of the planned activity area. • Carry out equipment and material mobilization activities based on: 1. Law no. 22 of 2009 concerning Road Traffic and Transportation 2. Government Regulation no. 55 of 2012 concerning Vehicles 3. Decree of the Director General of Land Transportation No. SK.727/AJ. 307/DRJD/2004 dated April 30, 2004 concerning Technical Guidelines for the Implementation of Public Transportation of Goods on the Road 4. Decree of the Director General of Land Transportation No. SK. 726/AJ.307/DRJD/2004 dated 30 April 2004 concerning Technical Guidelines for the Implementation of Heavy Transport on the Road	Carried out in the plantation area and its surroundings	Management reporting every six months	PT MKS
		Land clearing and maturation	• Selection of land clearing systems, methods and technologies that are expected to reduce noise to below the specified quality standards; • Continuous use of ear plugs for workers, or in activities close to pollutant sources that exceed the threshold; • The arrangement of working hours for activities is only carried out during the day.	Carried out in community settlements around the development area	Carried out as soon as possible or a maximum of two months after the land clearing and maturation activities	PT MKS
		Construction of palm oil mills and supporting facilities	• Regulate the speed of the vehicle • Remind drivers not to use the gas and horn when transporting materials	Carried out in employee settlements	Once during the construction stage	PT MKS
6.	Decreased diversity of flora	Land clearing and maturation	• Maintain the existence of HCVA (High Conservation Value Area) areas prior to land clearing and maturation activities, so that areas of high conservation value are identified	Carried out in areas designated as conservation areas	Management reporting every six months	PT MKS

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
			• Create a germplasm conservation area and/or maintain the existence of green areas along river borders, springs and protected areas around the location of the planned activity, with the provisions: large rivers are at least 100 m left and right of the river, small rivers are at least 50 m left and right of the river, springs with a minimum radius of 200 m, an area whose slope is above 40% and a buffer zone area of at least 500 m. • Planting and maintaining local types of plants in green areas or germplasm areas within the planned activity location.			
7.	Decreased diversity of fauna	Land clearing and maturation	• Maintain the existence of HCVA (High Conservation Value Area) areas prior to land clearing and maturation activities, so that areas of high conservation value are identified • Prepare fauna refuge areas (corridors) and provide opportunities for fauna to "migrate" to areas designated as conservation areas. • Doing land clearing gradually and prioritizing the planned garden area that is not forested, so that various types of fauna have the opportunity to migrate. • Planting and maintaining local types of local plants in green areas and conservation areas that are in the location of the planned activity • Create a germplasm conservation area and/or maintain the existence of green areas along river borders, springs and protected areas around the location of the planned activity, with the provisions: large rivers are at least 100 m left and right of the river, small rivers are at least 50 m left and right of the river, springs with a minimum radius of 200 m, an area whose slope is above 40% and a buffer zone area of at least 500 m. • Hand over the captured protected fauna to the KSDA for further maintenance in a captivity that has obtained a temporary captive permit from the Ministry of Forestry.	Carried out in areas designated as conservation areas	Management reporting every six months	PT MKS

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
			• Conduct security patrols around conservation areas, especially in areas that have been opened (logged over) to prevent hunting for fauna. • Manufacture and installation of signboards, warnings and appeals not to hunt or destroy fauna habitat in strategic locations along roads and rivers that are often used by the community to go to forests, protected areas and base camp environments. • Securing wildlife connecting corridors and reducing buildings or forest clearings that cut off the movement of wildlife and prevent clearing of forests which are typical habitats.			
Operation Phase						
1.	Decreasing Air Quality	Palm oil mill operations and waste management	• Continuous use of anti-dust masks for factory workers or in activities close to sources of air pollution. • Using the technology of exhausting combustion emissions with chimneys that have been recommended in reducing air pollution in the palm oil mill environment. • Periodic watering of transportation roads, especially when the intensity of transportation increases, especially during the dry season. • Planting hardwood trees on terraces along the road to control particulate dust such as trembesi, ketapang, mahogany, etc.	Oil palm plantations and mills	Management reporting every six months	PT MKS
2.	Noise Enhancement	Palm oil mill operations and waste management	• Continuous use of ear plugs for workers or in activities close to sources of pollution. • Planting broadleaf trees to reduce noise. • Conducting outreach to workers to use work safety equipment, especially in rooms with high air pollutant sources.	Oil palm plantations and mills	Management reporting every six months	PT MKS
		Transportation of CPO, PK, and FFB	• Transportation of CPO, PK and FFB using roadworthy vehicles. • Arrange transportation schedule/time. • Regulate the speed of the vehicle	Carried out in community settlements around the transportation line of CPO, PK, and FFB	Management reporting every six months	PT MKS

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
3.	Decrease in surface water quality	Palm oil mill operations and waste management	• Maintaining the greenbelt area along the river. • Carry out waste management from palm oil processing in WWTPs. • The WWTP pool is regularly monitored. • Make a temporary waste water settling basin equipped with a separator grill/filter in the palm oil processing unit which has the potential to release solids. • Utilizing production liquid waste by applying the Land Application system • Build a temporary storage place for hazardous waste in accordance with the criteria required in PP no. 101 of 2014 concerning Management of Hazardous and Toxic Waste and Decree of the Head of the Environmental Impact Management Agency no. KEP. 255/BAPEDAL/ 09/1996 regarding Procedures and Requirements for Storage and Collection of Used Lubricant Oil. • Manage the temporary storage of hazardous waste at the relevant agencies. • Cooperating with third parties who have permits for the collection and transportation of hazardous waste	Palm oil mill and WWTP	Management reporting every six months	PT MKS
4.	Decrease in the diversity of aquatic biota species	Palm oil mill operations and waste management	• Maintaining the green belt area along the river. • Improve the cleanliness/sanitation of the factory area before and after the process. • Cleaning and optimizing the water lines in each treatment unit to avoid clogging. • Make a temporary waste water settling basin equipped with a separator grill/filter in the treatment unit which has the potential to release solids, so that the burden on the waste treatment unit is carried out. • Dispose of and clean up trash in the available places.	Palm oil mill and WWTP	Management reporting every six months	PT MKS
5.	Changes in Disease Pattern	Palm oil mill operations and waste management	• Carry out all stages of activities by referring to standard operating procedures and Occupational Health and Safety that have been established, so that negative impacts on the health of the community and workers can be minimized. • Provide and build health facilities and health services to workers and communities affected by the	Carried out in employee settlements around the palm oil mill	Health checks are carried out twice a year, or when there are complaints from employees and the public about health problems	PT MKS

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
			implementation of activities in accordance with the level of health problems suffered/naturally. • Strengthen partnerships and networks between stakeholders related to public health programs in the work area. • Provide assistance that can improve the quality of environmental sanitation, such as the provision of clean water facilities in accordance with community needs. • Increase promotive activities in the health sector.			
		Transportation of CPO, PK, and FFB	• Provide health services to workers and communities affected by the implementation of activities in accordance with the level of health problems suffered/reasonable. • Cooperating with the local Health Office in tackling diseases that arise due to the transportation of CPO, PK and FFB.	Carried out in community settlements around the transportation line of CPO, PK, and FFB	Health checks are carried out twice a year, or when there are complaints from employees and the public about health problems	PT MKS
6.	Decreasing Ambient Air Quality	Transportation of CPO, PK, and FFB	• Regulate the speed of vehicles transporting CPO, PK, and FFB when passing through residential areas. • Planting trees in the factory road area.	Carried out in community settlements around the transportation line of CPO, PK, and FFB	Management reporting every six months	PT MKS
Post-Operation Phase						
1.	Increase in solid waste	Palm oil mill operations	• Provide garbage bins within the company environment for the disposal of employees' domestic waste. • Efficient use of raw materials and implementing cleaner production in the production process. • Provide adequate space to accommodate empty fruit bunches, fiber, palm kernel shells in the palm oil mill area. • Provide an adequate place to accommodate mud/sludge in the WWTP area. • Using fiber and palm kernel shells as boiler propulsion fuel.	• Temporary landfill for solid waste • Temporary storage place for empty fruit bunches, fiber, palm kernel shells in the palm oil mill area. • Temporary storage place for sludge/sludge in the WWTP area	• During production operational activities • One time providing a place to accommodate solid waste in the PKS area. • One time providing an adequate place that can accommodate mud/sludge in the WWTP area	PT MKS

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
					• Boiler operations take place by utilizing fiber and shells as boiler propulsion fuel	
2.	Increased volume of liquid waste	Palm oil mill operations	• Build an adequate IPAL and can accommodate PKS waste water. • Installation of flow meters at the inlet and outlet of WWTP • Recording of wastewater discharge at the inlet and outlet of IPAL everyday • Regular WWTP maintenance to ensure the effectiveness of wastewater treatment • Dredging sludge/pome in the WWTP pond does not exceed 70 cm from the surface of the pond • Provide special personnel handling WWTP. • Using a bio septic tank • Installing a grill on the control tub as a control of solid waste or garbage that also flows along with the flow of water and cleaning the sediment from the control tub on a monthly basis. • Normalization of environmental drainage channels regularly every year.	WWTP ponds, drainage channels and control tanks	• One time build an adequate IPAL. • One time installation of flow meters at the inlet and outlet of WWTP • WWTP maintenance regularly every year • Carry out mud/pome dredging in the WWTP not more than 70 cm from the surface of the pond at any time if necessary • One time provision of special personnel for WWTP handling • Normalization of drainage channels every month • Every week, clean up the trash stuck to	PT MKS

No	Managed Environmental Impact	Source of Impact	Environmental Management Plan	Location	Period	Responsibility
					the control tub handle	
3.	Increase the volume of hazardous waste	Palm oil mill operations	• Using energy-saving lamps and does not contain harmful and toxic elements • Installing pallets on the floor of the temporary storage area for hazardous and toxic waste • Perform routine generator engine maintenance every 3 months. • Make a temporary landfill for hazardous and toxic waste in accordance with the provisions contained in PP No. 101 of 2014 concerning Management of Hazardous and Toxic Waste • Carry out temporary storage of hazardous and toxic waste in a temporary storage place for hazardous and toxic waste • Installation of symbols for hazardous and toxic waste for each type of waste	Warehouse for temporary storage of hazardous and toxic waste	• Once every three months during processing operations • One time making a temporary shelter for Hazardous and Toxic Waste • One-time installation of a pallet on the floor of a temporary storage room for Hazardous and Toxic Waste • Perform routine generator engine maintenance every six months • One time to cooperate with a third party who has a Permit for the Collection and Transport of Hazardous and Toxic Waste	PT MKS

4.3. HCV-HCS Management Plan

Threat Assessment

The approach used in conducting the threat assessment to HCVs in the PT. MKS is a qualitative approach. A qualitative approach is carried out by measuring the relative impact of an event and tends to focus more on strategic and political aspects in avoiding or reducing the negative impact of a risk. The results of the threat level assessment are divided into 5 types, namely very low, low, medium, high and very high. Assessment of HCV-HCSA threats in the PT. MKS was conducted in 4 (four) ways, namely (1) literature study, (2) interviews, (3) focus group discussions (FGD), and (4) field observations. Assessment of threats in the concession area of PT. MKS is directed to 2 sources, namely internal and external, as well as to 2 events, namely current and potential. Activities that threaten the presence of HCVs in the PT. MKS is presented in Table 38.

Table 38. Threats to the HCV-HCSA Area in the Permitted Area of PT. MKS

HCV/HCS	A Brief Description of the Presence of Values in the Valuation Area	Main Threat	Threat Level
HCS Forest	**HCS Area** HCS Area 1-12	**Present:** Illegal logging	Very High
		Potential: Decreased forested area due to community conversion into gardens/agricultural fields.	Very High
HCV 1	**Biodiversity** • Species of flora including endemic, rare, threatened or endangered: Remingkai (Agathis borneensis Warb.), Mersawa/tokap (*Anisoptera marginata* V. Si), Gulumik/Belimbing (*Baccaurea angulata* Merrill), Anggrek tanah (*Bromheadia finlaysoniana* (Lindl.) Miq.), Bedara (*Cantleya corniculata* Howard.), Ayau (*Cotylelobium burckii* Heim), Mang (*Cotylelobium lanceolatum* Craib.), Tapa (*Ctenolophon parvifolius* Oliv.), Medang (*Dehaasia firma* Bl.), Keladan (*Dryobalanops aromatica* Gaertn.), Keladan benang (*Dryobalanops beccarri* Dyer.), Keladan beluluk (*Dryobalanops oblongifolia* Dyer), Pekawai (*Durio kutejensis* (Hassk.) Beccari), Burian hutan (*Durio lanceolatus* Mast.), Ulin (*Eusideroxylon zwageri* T. & B.), Anggrek bongkol (*Pholidota chinensis* Lindl.), Maro/marou (*Shorea ochrea* Sym.), Plango/pono (*Shorea ovata* Dyer.), Majo (*Shorea palembanica* Miq.), Tengkawang (*Shorea pinanga* Scheff.), and Meranti putih (*Shorea platycarpa* Heim). • Endemic, rare, threatened or endangered fauna species: Mamall (Monyet Ekor-panjang (*Macaca fascicularis*), Owa Kelawat (*Hylobates muelleri*), Trenggiling Peusing (*Manis javanica*), Berangberang Cakar-kecil (*Lutra perspicillata*), Kucing Kuwuk (*Prionailurus bengalensis*), and Rusa Sambar (*Rusa unicolor*)); Aves (Elang Tikus (*Elanus caeruleus*), Elangular Bido (*Spilornis cheela*), Elang Brontok (*Nisaetus cirrhatus*), Kuau Raja (*Argusianus argus*), Enggang Klihingan (*Anorrhinus galeritus*), Takur Gedang (*Megalaima chrysopogon*), Takur Tutut (*Megalaima rafflesii*), Takur Topi-merah (*Megalaima henricii*), Layanglayang Asia (*Hirundo rustica*), Kipasan Belang (*Rhipidura javanica*), Kerak Kerbau (*Acridotheres javanicus*), and Tiong Emas (*Gracula religiosa*)); and Herpetofauna (Ular Sawah (*Malayopython reticulatus*), Ular Dipong Hitam	**Present:** • Illegal logging • Wildlife hunting • Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields.	Very High Very High Very High
		Potential • Decreased habitat area due to conversion of forested areas in the form of dry land forest due to community conversion into gardens/agricultural fields. • Decrease in river water quality due to land clearing, washing/runoff of fertilizers & pesticides or other pollution from oil palm plantations entering rivers. • Pollution of household waste.	Very High Very High High

	(*Python breitensteini*), Ular Sendok Sumatra (*Naja sumatrana*), Biawak Air (*Varanus salvator*), dan Labi-Labi Hutan (*Dogania subplana*)). • Rivers and their boundaries: S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Areas: Hilly Areas D19, Hilly Areas F42, Hilly Areas G26, Hilly Areas H31, and Hilly Areas I20. Orangutan distribution area.		
HCV 2	**Ecosystem, Mosaic at Landscape Level and Intact Forest Landscape** • Distribution area of Orangutan. • Rivers and their boundaries: S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Areas: Hilly Area D-19, Hilly Area F- 42, Hilly Area G-26, Hilly Area H-31, and Hilly Area I-20	**Present:** • Illegal logging • There is conversion of land in the orangutan distribution area with land cover in the form of secondary forest and shrubs carried out by the community into gardens/agricultural fields.	High Very High
HCV 3	**Habitat and Ecosystem** • Association of mixed dipterocarp forest or hills on metamorphic rock and granite rock and association of mixed dipterocarp forest or hill on volcanic rock, metamorphic rock and granite rock. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Area: Hilly Area I20.	**Present** Illegal logging	Very High
		Potential Decreased habitat area due to the conversion of forested land in the form of dry land forest due to the conversion carried out by the community into gardens/agricultural fields.	Very High
HCV 4	**Ecosystem Services** • Rivers and their boundaries: S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba. • Springs and their boundaries: Bela'u River springs, Serabu River springs, Raja River tributary springs, Gunung River springs, Keraci River springs, Sengadah springs, Dusun Mayan and Kojub springs, and Lentong River springs. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Area: Hilly Area D19, Hilly Area F42, Hilly Area G26, Hilly Area H31, Hilly Area H61, Hilly Area I09, Hilly Area I12/J12, Hilly Area I20, and Hilly Area M08.	**Present** • Illegal logging • Loss of land cover in the form of dry land forest and shrubs in river border areas • Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields	Very High Very High Very High
		Potential • The company's operational activities will result in river silting, an increase in river water discharge in the rainy season and a decrease in river water discharge in the dry season, and increase erosion • Pollution of household waste • Loss of water supplies needed by downstream communities	Very High High Very High
HCV 5	**Community Need** • Communities in the village around the PT. MKS utilizes S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Segumon, and S. Tuba to meet the needs of drinking water and MCK.	**Present** Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields.	Very High
		Potential	

	• Communities in the village around the PT. MKS utilizes Bela'u River springs, Serabu River springs, Raja River tributaries, Gunung River springs, Keraci River springs, Sengadah springs, Mayan and Kojub hamlets springs, and Lentong River springs to meet water needs drink. • Communities around the PT. MKS utilizes the Rice Fields of Noyan Village, Semongan Village Rice Fields, and Sei Tekam Village Rice Fields to meet carbohydrate needs	• Pollution of household waste • Loss of drinking water sources due to river water being polluted	High Very High
HCV 6	**Culture Value** Distribution of religious or sacred sites, burial sites or locations where traditional ceremonies take place that are important to local communities or indigenous peoples: Lulung Bengris, Tembawang Guna, Tembawang Serabu and Atok Pala Tujuh, and Tungkup.	**Present** None	
		Potential • Land clearing, road construction and other facilities that do not take into account the existence of archaeological sites. • Loss of public access to archaeological sites. • Loss of community access to archaeological sites.	High High High
Peat	Not found	None	None

Recommendation for Every Value

HCV management is inseparable from the sustainable management of oil palm plantations, especially in realizing the preservation of ecological/environmental functions and social sustainability. Therefore, the HCV-HCSA areas found in the PT. MKS must be maintained and improved its existence. HCV-HCSA monitoring is also an integral part of HCV-HCSA management. HCV-HCSA monitoring aims to determine the success and effectiveness of the HCV management activities that have been carried out. Based on the data and information obtained from the HCV-HCSA monitoring activities, it is then used as material for improvement and refinement of the follow-up plan for the management of the HCV-HCSA that will be carried out, so that the existence and sustainability of the functions of the HCV-HCSA areas can be maintained and enhanced in the long term. PIC for HCV-HCS Management Plan is Sustainability Conservation & Environmental Compliance with e-mail: (sholihudin.sholeh@first-resources.com). Recommendations for each of these values are presented in Table 36.

Cross Sectoral Recommendations

Management of HCV-HCSA in PT. MKS needs to be carried out in an integrated manner by considering 2 (two) contexts, namely the socio-political context of the landscape and (2) the socio-political context of the Watershed (DAS).

Social Political Context Landscape

Management of HCV-HCSA in PT. MKS must be carried out on a large landscape scale, so it must be carried out in an integrated manner related to biodiversity conservation, namely building interconnections between HCV-HCS areas within the PT. MKS with the surrounding HCV-HCS areas as wildlife corridors. Investment activities that have been and are being developed around the permit area of PT. MKS consists of 3 (three) types, namely (1) Oil palm plantations managed by PT. Along Inti Surya Utama, PT. Bumi Tata Lestari, and PT. Global Prosperous Kalimantan; (2) Forestry (IUPHHK-HT) managed by PT. Duta Andalan Sukses, and (3) Community-owned plantation and agricultural areas. In this regard, the manager of the permit area of PT. MKS in managing HCV-HCSA must be carried out in an integrated and cross-sectoral manner by coordinating with companies managing oil palm plantations in the vicinity, IUPHHK-HTI companies, as well as communities managing gardens/fields/rice fields and the settlements they manage.

Socio-Political Context of Watershed (DAS)

PT. MKS is landscaped in the Ketungau and Sekayam sub-watersheds. Within the permit area of PT. MKS found 9 rivers/tributaries, namely S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan,

S. Motang, S. Puruh, S. Segumon, and S. Tuba. MKS indicated that the concession area of PT. MKS is found in the area between the upstream and downstream of the river. The flow of the 9 rivers/tributaries entirely passes through the concession area of PT. MKS, which in the end led to S. Ketungau and S. Sekayam.

Based on the administrative location of the government area, the permit area of PT. MKS is located in Noyan District (Noyan and Semongan Villages) and Semayam District (Malenggang Village and Tekam River), Sanggau Regency, West Kalimantan Province. The community of the four villages located in or around the PT. MKS utilizes rivers originating or flowing through the permit area for drinking water, toileting (especially during the dry season) and fishing.

In addition, people in other villages located downstream and far from the PT. MKS may also use rivers that originate from or pass through the HGU area to irrigate MCK. Therefore, the management of oil palm plantations in the concession area of PT. MKS must focus on efforts to conserve the functions of these rivers by developing soil and water conservation principles, as well as adequate waste management in an integrated and cross-sectoral manner. In carrying out efforts to preserve these rivers, the manager of the permit area of PT. MKS cannot do it alone but must be carried out in an integrated and cross-sectoral manner by coordinating with companies that manage oil palm plantations in the vicinity, as well as communities that manage plantations/fields and the settlements they manage, especially upstream. The map for HCV management in and around the PT. MKS in an integrated and cross-sectoral manner is presented in Figure XX.

Table 39. Management and Monitoring Recommendations HCV-HCS

Identified Value	Threat	Management Recommendation	Monitoring Management	Timeline Monitoring	PIC
HCS Forest HCS Area-1 - 12	• Illegal logging. • Decreased HCS area due to community conversion into gardens/agricultural fields.	• Perform boundary marking and maintenance of boundary markings for forested areas at strategic locations. • Socializing HCS internally and externally. • Prevent, protect, and deal with disturbances to HCS management areas (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols. • Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within the permit area, as well as effective law enforcement. • HCS areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations.	• Develop a periodic monitoring system to ensure that illegal logging and land conversion activities are minimized. • Conduct periodic monitoring of the effectiveness of prevention, protection and mitigation activities against disturbances in HCS management areas that have been carried out. • Periodically monitoring the intensity of disturbances to HCS areas, including illegal logging and area conversion.	• Once year • Once year • Once month	Sustainability Conservation & Environmental Compliance
HCV 1: • Species of flora including endemic, rare, threatened or endangered: Remingkai (Agathis borneensis Warb.), Mersawa/tokap (Anisoptera marginata V. Si), Gulumik/Belimbing (Baccaurea angulata Merrill), Anggrek tanah (Bromheadia finlaysoniana (Lindl.) Miq.), Bedara (Cantleya corniculata Howard.), Ayau (Cotylelobium burckii Heim), Mang	• Illegal logging • Wildlife hunting • Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields. • Decreased habitat area due to the conversion of forested land in the form of dry land	• Perform boundary marking and maintenance of boundary markings for river border areas (50 m wide), swamps, hills, and forested areas in the field. • Conducting socialization of HCV internally and externally. • Prevent, protect, and deal with disturbances to the HCV management area (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols. • Conduct further surveys to ascertain the population status of the HCV 1 species. • Performing river border maintenance in areas (riparian areas): (1) Conducting rehabilitation and restoration of river border	• Conduct periodic monitoring of the population of the HCV 1 species in the HCV management area. • Develop a periodic monitoring system to ensure that illegal logging and land conversion activities are minimized. • Conduct periodic monitoring of the effectiveness of prevention, protection and mitigation activities against disturbances in the HCV management area that have been carried out. • Monitoring the intensity of disturbances to the borders of rivers, swamps, hills, and forested areas periodically, including illegal logging and area conversion.	• Twice a Year • Once Year • Once Year • Once month	Sustainability Conservation & Environmental Compliance

Identified Value	Threat	Management Recommendation	Monitoring Management	Timeline Monitoring	PIC
(Cotylelobium lanceolatum Craib.), Tapa (Ctenolophon parvifolius Oliv.), Medang (Dehaasia firma Bl.), Keladan (Dryobalanops aromatica Gaertn.), Keladan benang (Dryobalanops beccarri Dyer.), Keladan beluluk (Dryobalanops oblongifolia Dyer), Pekawai (Durio kutejensis (Hassk.) Beccari), Burian hutan (Durio lanceolatus Mast.), Ulin (Eusideroxylon zwageri T. & B.), Anggrek bongkol (Pholidota chinensis Lindl.), Maro/marou (Shorea ochreea Sym.), Plango/pono (Shorea ovata Dyer.), Majo (Shorea palembanica Miq.), Tengkawang (Shorea pinanga Scheff.), and Meranti putih (Shorea platycarpa Heim). • Endemic, rare, threatened or endangered fauna species: Mamall (Monyet Ekor-panjang (Macaca fascicularis), Owa Kelawat (Hylobates muelleri), Trenggiling	forest due to the conversion carried out by the community into gardens/agricultural fields. • Decrease in river water quality due to land clearing, washing/runoff of fertilizers & pesticides or other pollution from oil palm plantations entering rivers • Pollution of household waste.	areas that have land cover in the form of shrubs and open land; (2) Conduct socialization to the community to minimize the impact of the use of herbicides and fertilization on land cover in the form of mixed rubber plantations, oil palm plantations, and rubber plantations; (3) Making rorak or mounds, (4) Overcoming narrowing (due to garbage and others) and river silting, (5) For land cover in the form of secondary dry land forest, activities to control and prevent the spread of exotic and invasive species; (6) Increasing the "filter" of the watershed especially along riverbanks by planting grasses or other plants that can tightly cover the soil surface; and (7) Safeguarding riverbanks that are prone to landslides, for example by planting relatively light and deep-rooted plants such as bamboo (if the sediment comes from riverbank erosion). • Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within HGU areas, as well as effective law enforcement. • HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations.	• Conduct periodic monitoring of rehabilitation and restoration activities in river border areas.	• Once Year	

Identified Value	Threat	Management Recommendation	Monitoring Management	Timeline Monitoring	PIC
Peusing (Manis javanica), Berangberang Cakarkecil (Lutra perspicillata), Kucing Kuwuk (Prionailurus bengalensis), and Rusa Sambar (Rusa unicolor)); Aves (Elang Tikus (Elanus caeruleus), Elangular Bido (Spilornis cheela), Elang Brontok (Nisaetus cirrhatus), Kuau Raja (Argusianus argus), Enggang Klihingan (Anorrhinus galeritus), Takur Gedang (Megalaima chrysopogon), Takur Tutut (Megalaima rafflesii), Takur Topimerah (Megalaima henricii), Layanglayang Asia (Hirundo rustica), Kipasan Belang (Rhipidura javanica), Kerak Kerbau (Acridotheres javanicus), and Tiong Emas (Gracula religiosa)); and Herpetofauna (Ular Sawah (Malayopython reticulatus), Ular Dipong Hitam (Python breitensteini), Ular Sendok Sumatra (Naja sumatrana), Biawak Air (Varanus salvator), dan					

Identified Value	Threat	Management Recommendation	Monitoring Management	Timeline Monitoring	PIC
Labi-Labi Hutan (Dogania subplana)). • Rivers and their boundaries: S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Areas: Hilly Areas D19, Hilly Areas F42, Hilly Areas G26, Hilly Areas H31, and Hilly Areas I20. • Orangutan distribution area.					
HCV 2 • Orang Utan distribution area. • Rivers and their boundaries: S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Areas: Bukit Blok C-21, Bukit Blok C-23, Bukit	• Illegal logging. • There is conversion of land in the orangutan distribution area with land cover in the form of secondary forest and shrubs carried out by the community into gardens/agricultural fields.	• Perform boundary marking and maintenance of boundary markings for Orangutan distribution areas in the field. • Conducting socialization of HCV internally and externally. • Preventing, protecting, and overcoming disturbances to the orangutan distribution area (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols. • Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within HGU areas, as well as effective law enforcement.	Develop a periodic monitoring system to ensure that illegal logging and land conversion activities are minimized.	Once year	Sustainability Conservation & Environmental Compliance

Identified Value	Threat	Management Recommendation	Monitoring Management	Timeline Monitoring	PIC
Blok C-26, Bukit Blok D-19, Bukit Blok D-21, Bukit Blok D-26, Bukit Blok E-23, Bukit Blok F- 42, Bukit Blok G-22, Bukit Blok G-26, Bukit Blok H-10, Bukit Blok H-31, Bukit Blok I-11, Bukit Blok I-20, Bukit Blok I-22 and Bukit Blok L-28.		• HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations.			
HCV 3 • Association of mixed dipterocarp forest or hills on metamorphic rock and granite rock and association of mixed dipterocarp forest or hill on volcanic rock, metamorphic rock and granite rock. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Area: Hilly Area I20.	• Illegal logging. • Reduction of forested area due to illegal logging and land conversion in forested areas carried out by the community into gardens/agricultural fields.	• Perform boundary marking and maintenance of boundary markings for Orangutan distribution areas in the field. Conducting socialization of HCV internally and externally. • Preventing, protecting, and overcoming disturbances to the orangutan distribution area (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols. • Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within HGU areas, as well as effective law enforcement. • HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations.	• Develop a periodic monitoring system to ensure that illegal logging and land conversion activities are minimized. • Conduct periodic monitoring of the effectiveness of prevention, protection and mitigation activities against disturbances in the HCV management area that have been carried out. • Periodically monitoring the intensity of disturbances to forested areas, including illegal logging and area conversion.	• Once year • Once Year • Once month	Sustainability Conservation & Environmental Compliance
HCV 4 • Rivers and their boundaries: S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Puruh, S. Segumon, and S. Tuba.	• Illegal logging. • Loss of land cover in the form of dry land forest and shrubs in river border areas. • Pollution of river water due to the use of chemicals	• Perform boundary marking and maintenance of river border areas (50 m wide), springs and their borders, forested areas, hills, and swamps in the field. • Prevent, protect, and deal with disturbances to the HCV management area (illegal logging and area conversion) through the following activities: installation and maintenance of	• Build a monitoring station for the physical condition of the river and the quantity of river and spring water. • Conduct periodic monitoring with the community on the physical condition of the river, as well as the quality and quantity of river and spring water.	• Twice year • Once month	Sustainability Conservation & Environmental Compliance

Identified Value	Threat	Management Recommendation	Monitoring Management	Timeline Monitoring	PIC
• Springs and their boundaries: Bela'u River springs, Serabu River springs, Raja River tributary springs, Gunung River springs, Keraci River springs, Sengadah springs, Dusun Mayan and Kojub springs, and Lentong River springs. • Forested Area: Forested Area B16, Forested Area D16, Forested Area E16, Forested Area F42, Forested Area I19/J20, and Forested Area M07. • Hilly Area: Hilly Area D19, Hilly Area F42, Hilly Area G26, Hilly Area H31, Hilly Area H61, Hilly Area I09, Hilly Area I12/J12, Hilly Area I20, and Hilly Area M08.	(fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields. • The company's operational activities will result in river silting, an increase in river water discharge in the rainy season and a decrease in river water discharge in the dry season, and increase erosion. • Pollution of household waste. • Loss of water supplies needed by downstream communities.	HCV signs on strategic access points, as well as regular patrols. • Develop and implement SOPs for the use of chemicals and SOPs for waste management, as well as SOPs for land clearing, construction and maintenance of roads and other facilities, as well as planting and maintaining plants that are able to minimize erosion and maintain water quality. • Ensure that road and other facilities construction activities, as well as land clearing have been carried out correctly in accordance with the SOPs that have been prepared. • Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and conversion of areas within HGU areas, as well as effective law enforcement. • HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations	• Conduct periodic monitoring of illegal logging and land conversion activities by the community. • Conduct periodic erosion monitoring. • Conduct periodic monitoring of land cover changes and natural regeneration in river border areas, areas around springs, swamps, hills, and forested areas. • Monitoring and evaluating the SOPs that are applied periodically.	• Once month • Once year • Once Year • Once Year	
HCV 5: • Communities in the village around the PT. MKS utilizes S. Bayan, S. Beluk, S. Gontu/Saeh, S. Kuyak/Noyan, S. Mayan, S. Motang, S. Segumon, and S. Tuba to meet the needs of drinking water and MCK. • Communities in the village around the PT. MKS utilizes Bela'u River springs, Serabu River	• Pollution of river water due to the use of chemicals (fertilizers and pesticides) from the company's oil palm plantations and community gardens/agricultural fields. • Pollution of household waste. • Loss of drinking water sources due to	• Protecting HCV 5 through clear boundary marking activities in the field and regular patrols. • Prevent, protect, and deal with disturbances to the HCV management area (illegal logging and area conversion) through the following activities: installation and maintenance of HCV signs on strategic access points, as well as regular patrols. • Coordinate with the Muspika of Manis Mata and Jelai Hulu Subdistricts (Kecamatan, Polsek and Koramil), the Ketapang Forestry Service in order to reduce illegal logging, and	Conduct periodic monitoring of community participation in reducing environmental impacts (eg: land conversion and use of fertilizers and pesticides in gardens/fields).	Once year	Sustainability Conservation & Environmental Compliance

Identified Value	Threat	Management Recommendation	Monitoring Management	Timeline Monitoring	PIC
springs, Raja River tributaries, Gunung River springs, Keraci River springs, Sengadah springs, Mayan and Kojub hamlets springs, and Lentong River springs to meet water needs drink. • Communities around the PT. MKS utilizes the Rice Fields of Noyan Village, Semongan Village Rice Fields, and Sungai Tekam Village Rice Fields to meet carbohydrate needs	river water being polluted.	conversion of areas within HGU areas, as well as effective law enforcement. • HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations.			
HCV 6 Distribution of religious or sacred sites, burial sites or locations where traditional ceremonies take place that are important to local communities or indigenous peoples: Lulung Bengris, Tembawang Guna, Tembawang Serabu and Atok Pala seven, and Tungkup.	• Land clearing activities, road construction and other facilities that do not pay attention to the existence of archaeological sites. • Loss of public access to archaeological sites.	• Marking the boundaries of HCV 6 areas if permitted by the community and periodically maintaining boundary markings in the field so that disturbances to the site do not occur. • Involve community members during land clearing activities, especially those located adjacent to or adjacent to HCV 6 areas to avoid disturbance to existing sites. • Develop SOPs for identification, boundary marking and maintenance of boundary markings in the field, as well as protection of all HCV 6 sites together with the community. • Provide convenience for all communities to access the HCV 6 site. • HCV areas that have already been cleared, must be managed in accordance with Best Practice Management and in accordance with applicable Government Regulations.	• Develop a simple HCV 6 monitoring system that is easily understood by the community. • The company together with the community conducts site monitoring periodically (annually) and prepares a report.	• Once year • Once year	Sustainability Conservation & Environmental Compliance

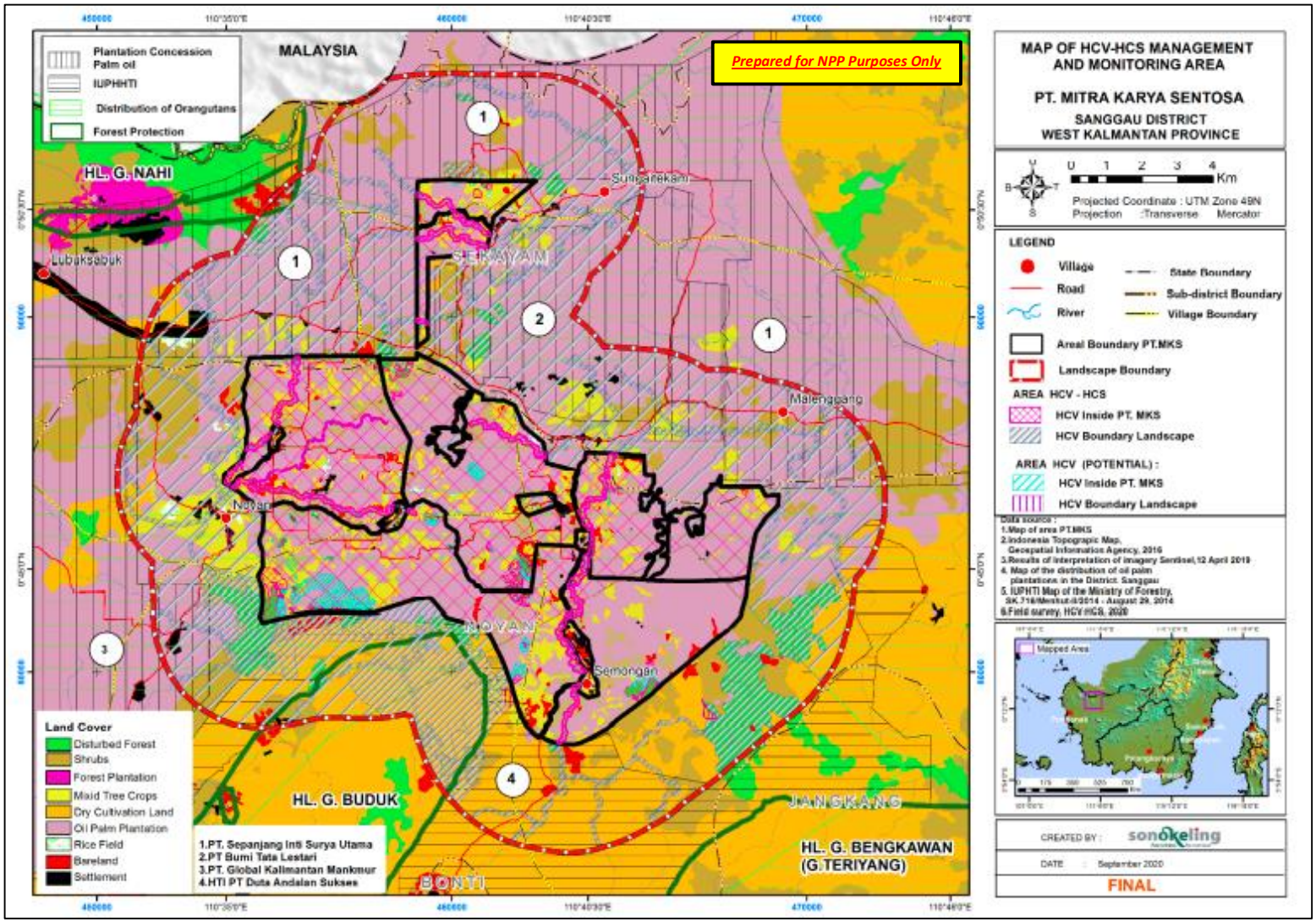


Figure 26. Map of Management and Monitoring Area Within Permit Area PT MKS

4.4. Soil Mangement Plan

Based on the soil survey, there is marginal soil in the proposed development areas. Considering the topography the proposed development areas, the areas that need attention and managed are the steep areas and riparian zone because both of those areas are prone to erosions. Management plan that need to be considered in preparing a complete document of the soil management plan in the proposed development areas are presented in the management and monitoring of HCV 4.

4.5. GHG Mitigate Management Plan

The mitigation plan is related to the process of planting oil palm and building a palm oil mill. Land clearing for new plantings is prioritized in areas with low carbon stocks. GHG emission efforts carried out in the development area for new plantings are maintaining the HCV-HCSA area, optimizing fuel use/efficiency and clearing land without burning (zero burning).

The new development plan in the PT MKS area, based on scenario 1, must avoid conservation areas in the form of HCV areas and forest areas that aim to increase emission absorption and such as carbon storage. Mitigation plans and monitoring of protected areas in the PT MKS area are presented in tables below.

Table 40. Plans for maintenance/improvement and monitoring of protected areas in the PT MKS

No	Maintenance/Improvement	Monitoring	Area	Frequency
1.	Marking protected area boundary by participatory.	Maintenance sign protected area boundary periodically.	HCV area and disturbed forest	Once every 6 months
2.	Socialization to employees, contractors and management regarding area boundaries and protected areas, especially those who have the task of clearing land, building roads and other facilities, as well as maintaining oil palm plantations, harvesting and transporting oil palm fruit	Understanding of employees, contractors and management related to boundaries of protected areas, socialization, prevention and control of forest and land fires, encroachment on protected areas	HCV area and disturbed forest	For employees and contractors, socialization is carried out every 3 months For the surrounding community, socialization is carried out every 6 months
3.	Socialization of protected areas for the surrounding community	Understanding of employees, contractors and management related to boundaries of protected areas, counseling, and prevention and control of forest and land fires, encroachment on protected areas	HCV area and disturbed forest	
4.	Prevention and control of fire disturbances and encroachment of protected areas through the formation of a task force	Patrol by periodic	HCV area and disturbed forest	In line with the estate patrol
5.	Inventory and identification land cover in protected area	Monitoring vegetation structure and composition	HCV area and disturbed forest	Once every 6 months
6.	Rehabilitation and species enrichment in protected areas	Realization and percentage of lives invested in rehabilitation and enrichment location	HCV area and disturbed forest	Once every 2 months

Table 41. GHG emission reduction strategy for PT MKS oil palm plantation operations

Operational Stage	Actions to Maintain/Improve	
LC and planting (Land use change)	LC and planting	• Land clearing without burning (zero burning) • Not opening conservation areas and conservation area reserves • Implementation of good plantation crop cultivation practices in accordance with oil palm cultivation guidelines (eg not planting in certain locations with certain slopes)

Operational Stage	Actions to Maintain/Improve	
		• Planting trees on riverbanks and critical areas • Carry out fire patrols • Conduct socialization to all levels of workers regarding the greenhouse gas emission mitigation program in lc and planting activities
	Use of machinery/heavy equipment	• Routine maintenance of vehicles and machines • Routine vehicle emission testing • Doing reforestation in strategic places • Make transportation arrangements effectively and efficiently • Conduct socialization to all workers regarding the greenhouse gas emission mitigation program that may arise from the use of fossil fuels to run transportation and machinery
	Fertilizing	• Effective fertilization according to the dose in the recommended fertilization • No fertilization when it rains • No fertilization in river border areas • Conducting socialization to all levels of workers regarding the greenhouse gas emission mitigation program due to fertilization activities
Plant upkeep and cultivation	Use of fossil fuels for transportation	• Routine maintenance of vehicles and machines • Routine vehicle emission test • Doing reforestation in strategic places • Make transportation arrangements effectively and efficiently • Conduct socialization to all workers regarding the greenhouse gas emission mitigation program that may arise from the use of fossil fuels to run transportation and machinery
	Fertilizing	• Routine maintenance of vehicles and machines • Routine vehicle emission test • Doing reforestation in strategic places • Make transportation arrangements effectively and efficiently • Conduct socialization to all workers regarding the greenhouse gas emission mitigation program that may arise from the use of fossil fuels to run transportation and machinery
Settlement	The use of fossil fuels for energy sources for diesel engines that are used as a provider of electricity	• Machine maintenance and repair regularly • Periodic emission monitoring
	Decomposition of waste in landfill	Doing stockpiling after the landfill is full

Table 42. GHG emission reduction strategy for PT MKS palm oil mill

Operational Stage	Actions to Maintain/Improve	
Processing and transportation	Use of fossil fuels for combustion in boilers and diesel engines (for power sources)	• Regular monitoring of boiler and diesel engine emissions • Periodic service to the machines used • Using biofuels (shells, fibers) to reduce the use of fossil fuels • Socialization to workers regarding the GHG emission mitigation program sourced from processing FFB into CPO by using fossil fuels as an energy source in boilers and diesel engines
	Use of fossil fuels for transportation of CPO and EFB	• Routine maintenance of vehicles and machines • Routine vehicle emission test • Planting trees in strategic places • Organize transportation effectively and efficiently • Socialization to all workers regarding the GHG emission mitigation program that may arise from the use of fossil fuels to run transportation and machinery
POME (Palm Oil Mill Effluent)	Liquid waste	• Land application • Monitor the physical condition of the ponds and freeboard levels • Regular monitoring for POME

Operational Stage	Actions to Maintain/Improve	
	EFB (Empty Fruit Bunch)	• Used for compost • Used for mulch

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INTERNAL RESPONSIBILITY

Formal Signoff by Assessor and the Company

This document is the Summary of Assessments for New Planting Procedures for PT Mitra Karya Sentosa (PT MKS) concession under the company management.

Assessment Team

M. Arif Yusni
(Team Leader)
Date: 12 October 2022

PT MKS Management

Ardi Candra Yunianto
(Strategic Sustainability & Stakeholder Engagement Manager)
Date: 12 October 2022

Statement of Acceptance of Responsibility for Assessments

Result of the Assessments on New Planting Procedure for PT MKS carried out by Mutuagung Lestari will be applied as part of guidelines to develop and manage PT MKS management units.

PT MKS Management

Ardi Candra Yunianto
(Strategic Sustainability & Stakeholder Engagement Manager)
Date: 12 October 2022