New Planting Procedure - Summary of Integrated Management Plan		
RSPO Roundtable on Sustainable Palm Oil	DSNGROUP	[Insert CB's Company Logo (if applicable)]
NPP Reference Number	1007/PT BPN/July/2024	
Country of the NPP submission:	Indonesia	
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Reference to the management unit management plan	1. SEIA was compiled by Elais 2. Integrated HCV-HCS Assessment was compiled by Aksenta 3. FPIC Process was compiled by Elais 4. Soil and Topography was compiled by Elais 5. GHG was compiled by Elais	
Name(s) of estate(s) covered under this management plan:	Koperasi Unit Desa (KUD) Tepian Prima Sawit	

Guidance Notes:

This summary management plan shall indicate at a minimum but not be limited to the following:

- Key findings of the various assessments (e.g., potential minor environmental and/or social risk requiring mitigation actions; total conservation areas).
- Key mitigation and monitoring regime, covering both the environmental and social aspects.
- Evidence of FPIC and key agreements with local communities (if any).
- An action plan describing operational actions consequent to the findings of the various assessments, referencing the grower's relevant operational procedures.
- Designation of the management team and responsible person for the implementation.

1	**SEIA**	Environmental management directions are aimed at significant impacts based on the level of importance of the impact, or impacts that are not important but have a medium to large magnitude. Environmental management to mitigate Important Negative Impacts and maintain Important Positive Impacts is carried out using three approaches, namely (i) technological approach, (ii) socio-economic and cultural approach, and institutional approach

Table 1. Plan SEIA management

No	Significant Impact	Activities Cause Impact	Impact Magnitude	Impact Importance Level	Environmental Management Directions		
					Technological Approach	Social and Cultural Approach	Institutional Approach
Pre-Construction Stage							
1	None	-	-	None	na.	na.	na.
Construction Phase							
2	Microclimate change	Land clearing Construction of garden facilities and infrastructure	Medium	Negatives Not Important	▪ Plant vegetation in the emplacement area (preferably native tree species and/or those with deep and strong roots and a dienes canopy). ▪ Set a schedule for land clearing and planting in stages.	-	-
		LCC Planting	Medium	Positive Not Important	Carry out LCC planting according to schedule.	Allocate workers specifically responsible for LCC planting.	-

3	Water quantity: changes in river discharge and surface runoff	Land clearing	Low	Negatives Important	▪ Arrange the pile of chopped tree trunks so that it cuts across the slope. ▪ Carrying out soil and water conservation activities through enriching vegetation on river borders (preferably native tree species and/or those with deep and strong roots and a dense canopy). ▪ Carry out soil and water conservation activities using civil engineering techniques such as making sediment traps (overflow or gully plugs) in tributaries, making silt pits in planting areas and on either side of the road. side pit) on undulating land. ▪ Determination of border areas identified as conservation areas accompanied by marking of conservation area boundaries.	▪ Installation of signs board and outreach to the community about the important value of rivers and their border areas. ▪ Socialization to land clearing contractors regarding river border boundaries to avoid over- clearing. ▪ Accompany land clearing contractors and prepare land clearing minutes.	Collaboration and cooperation with the community, government (from village to regional level), other companies regarding river and border conservation programs.
		Construction of garden facilities and infrastructure					
		Water utilization					
		Making planting holes	Low	Positive Important	Plan drainage designs (number, dimensions, channel connectivity) by considering location characteristics, direction of surface flow, and predictions of excess runoff after land clearing.	-	Supervise the implementation of SOPs for the creation of water facilities and SOPs for soil and water conservation.
		Construction of water facilities					
		Soil and water conservation					
4	Accumulation of plastic waste	Planting oil palm seeds	Medium	Important Negatives	Using polybags with materials that degrade quickly (bio degradable) or collecting plastic waste (an organic) to be further handled according to the SOP for Garbage/Waste Handling.	-	Implementation of SOP for Garbage/Waste Handling.

5	Potential for land fires	Stack the chopped tree trunks	Low	Important Negatives	▪ Arrange the pile of chopped tree trunks so that it cuts across the slope. ▪ Mapping the location of water sources for handling land fires. ▪ Implement a fire information system, including an early warning system based on a drought index or based on monitoring from fire towers, as well as potential fire incidents or the Fire Danger Rating System (FDRS). ▪ Carry out maintenance of areas that have the potential to become artificial fire breaks, such as garden roads or elephant ditches, including (i) reducing the availability of fuel around these areas, for example piles of fronds, twigs or wood, (ii) the road design is made slightly convex so that a channel forms at the edge of the road. ▪ Maintenance of garden roads so that they can support accessibility for fire emergency response teams or patrol teams.	▪ Socialization to the community and installation of signs board regarding the dangers of land fires. ▪ Collaborate with the community, village government and related parties, so that (if any) the use of fire for clearing fields is carried out in accordance with local customs, including monitoring and controlling fire so that it does not spread.	▪ Implementation of SOPs for controlling forest and land fires (Karhutla), including emergency response mechanisms and reporting to the authorities. ▪ mitigation and control task force supported by training and infrastructure. ▪ Carry out regular patrols during the dry season, in accordance with the provisions in the SOP for forest and Land Fire Control. ▪ Coordinate with surrounding companies and with the government, both local and regional levels, to mitigate forest and land fires.

6	Increased noise	Land clearing Construction of garden facilities and infrastructure Construction of water facilities	Medium	Important Negatives	▪ Use of ear plugs as PPE for employees or heavy equipment operators. ▪ Maintenance of heavy equipment machines to ensure they comply with technical specifications.	Socialization of the use of PPE to employees and land clearing contractors.	Supervise the implementation of SOPs related to PPE.
7	Decreased river water quality	Land clearing Construction of garden facilities and infrastructure Application of agrochemical materials Making planting holes Construction of water facilities	Low	Important Negatives Positive Important	▪ Carrying out soil and water conservation activities through enriching vegetation on river borders and in emplacement areas (preferably native tree species and/or those with deep and strong roots and a dense canopy). ▪ Carry out soil and water conservation activities using civil engineering techniques such as making sediment traps (overflow or gully plugs) in tributaries, making silt pits in planting areas and on either side of the road. side pit) on undulating land. ▪ Determination of border areas identified as conservation areas accompanied by marking of conservation area boundaries. ▪ Carry out LCC planting according to schedule. ▪ Design drainage channel designs (number, dimensions, channel connectivity) taking into account	▪ Outreach to employees regarding the prohibition of the use of agrochemicals on river borders. ▪ Installation of signs board and outreach to the community about the important value of border areas as river buffers. ▪ Socialization to land clearing contractors regarding river border boundaries to avoid over- clearing. ▪ Accompany land clearing contractors and prepare land clearing minutes. Allocate workers specifically responsible for LCC planting.	▪ Supervise the implementation of SOPs for maintenance of planting areas and fertilization at the borders of water bodies for all employees. ▪ Collaboration and cooperation with the community, government (from village to regional level), other companies regarding river and border conservation programs. Supervise the implementation of SOPs for the construction of water facilities.

					the characteristics, location, direction of surface flow, and the potential for excess runoff after land clearing.		
		LCC Planting	Low				
8	Expansion of employment opportunities	Land clearing Garden construction Seeding and planting	Medium	Positive Important	-	Implementation of positive discrimination policies by prioritizing local workers	Manpower management in accordance with statutory regulations consistently
9	Increased business opportunities	Land clearing Garden construction	Medium	Positive Important	-	Implementation of positive discrimination policies by prioritizing local work partners	▪ Facilitate increasing professionalism of local business partners ▪ Facilitate improved governance of local business partner organizations
Operation Phase							
10	Water quantity: control of surface runoff	Maintenance of drainage channels	Low	Positive Important	▪ Mapping of channel locations that require priority maintenance. ▪ Preparation of a regular maintenance schedule (1-2 times a year).	Allocation of resources (funds, labor) for regular maintenance of drainage channels.	-
11	Increased noise	Harvesting and transporting FFB	Medium	Negatives Not Important	▪ Determine the maximum age of the FFB transport vehicle in the FFB transport cooperation agreement with the contractor. ▪ Slow down vehicle speed when passing through residential areas (maximum 40 km / hour).	-	-

12	Decreased water quality	Garden maintenance through the application of agrochemicals Fertilization	Low	Important Negatives	▪ Preparation and adjustment of fertilization schedules based on rainfall predictions. ▪ Apply manual weeding to planting areas located on the borders of water bodies. ▪ Carrying out civil and technical soil and water conservation activities such as making sediment traps (overflow or gully plugs) in tributaries, making silt pits in planting areas and on either side of the road. side pit) on undulating land.	▪ Outreach to employees regarding the prohibition of the use of agrochemicals on river borders. ▪ Installation of signs board and outreach to the community about the important value of border areas as river buffers.	▪ Supervise the implementation of SOPs for maintenance of planting areas and fertilization at the borders of water bodies for all employees. ▪ Collaboration and cooperation with the community, government (from village to regional level), other companies regarding river and border conservation programs.
13	Workers' health issues	Use of agrochemicals	Medium	Important Negatives	-	▪ Socialization of the K3 program to employees ▪ Checking up employee healths regularly ▪ Submission of health evaluation results to employees	▪ HIRAC development according to the physical conditions of Partnership V plantations ▪ Consistent implementation of K3 policies and procedures ▪ Provision of adequate K3 facilities and infrastructure
14	Expansion of employment opportunities	Maintenance FFB Production Transportation of FFB	Medium	Positive Important	-	Implementation of positive discrimination policies by prioritizing local workers	Manpower management in accordance with statutory regulations consistently
15	Increased business opportunities	FFB production Transportation of FFB	Medium	Positive Important	-	Implementation of positive discrimination policies by prioritizing local work partners	▪ Facilitate increasing professionalism of local business partners ▪ Facilitate improved governance of local business partner organizations

		Existence of employee housing					▪ Development of CSR programs related to improving local community skills and entrepreneurial abilities for products and services needed by the company/surrounding community
16	Increased income of plasma farmers	FFB Production	Medium	Positive Important	-	Ensure good communication and openness of information with KUD administrators	▪ Good implementation agricultural practices in plasma plantations ▪ Optimization of plasma plantation yields

2 **HCV areas and HCS forests**

HCV **Area** **Summary**

The identified HCV/HCVMA No Go area is 802.8 ha with 352.9 ha management area (HCVMA Go), resulting in a total management area is 1,155.7 ha. Some parts of the HCV/HCVMA areas overlap with community land. The net HCVMA No Go area covers 652.8 ha with a management area (HCVMA Go) of 317.1 ha. All identified HCS areas considered indicative conservation areas, overlap with HCV areas, and there are no peatlands in the study area. The land identified as important for community interests covers 190.3 ha, of which 150 ha overlap with HCV/HCVMA No Go areas, and 35.8 ha overlap with HCVMA Go areas.

Table 2. Recapitulation area of conservation and management areas in the study area

Conservation value environment and social	Size (ha) of conservation areas within the study area	Size (ha) of management area within the study area
HCS Forest*	486.5	486.5
Peat	-	-
HCV 1	709.3	1,073.5
HCV 2	-	-
HCV 3	592.1	602.4
HCV 4	468.9	527.1
HCV 5	0.2	1.6
HCV 6	4.7	4.7
Community land **	190.3	190.3

Net total (combined)	**802.8**	**1,155.7**

Information:

* total area of forest HCS is 486.5 ha, there is overlap with land public covering an area of 61.0 ha. so wide net HCS area is 425.5 ha based on PADT results (Chapter 9). All net HCS areas the overlapping overlap with the HC V area

** total area land The community within the UM is 190.3 ha of which 150 ha overlapping overlap with HC V/HCVMA No Go area and 35.8 ha of overlap overlap with HCVMA Go

Discussion of HCSA Decision Tree Results

The decision tree process was conducted on 61 HCS patches within the MU and on HCS patches outside the MU within a 1 km radius of the Management Unit. The decision tree stages implemented were step 1-5, step 11, and step 13, while step 6-12 was not carried out because all HCS patches had already been designated as HCS conservation areas. The HCS land cover area in stage 1 was 486.5 ha, but it overlapping with 61 ha of community land, resulting in 425.5 ha of HCS land cover being analyzed through the decision tree process.

The decision tree results for HCS patches indicated that seven patches (ID 1, 9, 34, 54, 59, 60, and 61) were high-priority HCS conservation areas based on their core areas. The remaining 54 patches had connectivity or overlap with HCV/HCVMA areas, leading to all these HCS patches being designated as HCS conservation areas. The integration results of conservation areas and land use plans in the Management Unit showed that the net conservation area (HCV/HCVMA and HCS) was 652.8 ha, with 190.3 ha of community land (185.8 ha overlapping with HCV areas), and 570.4 ha of potential development area.

Threat Assessment

Table 3. Summary existence mark important and threatening mainly

Conservation value	Summary mark important in the study area	Major Threats
HCV 1	Population endemic fauna and flora species or RTE species	▪ Decline extent and quality of animal habitat consequence from logging trees. fires land. and no exists connectivity with potential habitat outside the UM ▪ Hunting animals (especially orangutans) ▪ Decline quality of aquatic habitat consequence residue ingredients agrochemical and opening cover vegetation in riparian areas (border river)
HCV 3	Cover forest secondary to the ecosystem forest plain low dipterocarpa mixture in rocks sediment status ecosystem threatened	▪ Conversion land ▪ Logging wood ▪ Fire land
HCV 4	Environmental services base related function hydrology in water bodies (rivers. lakes. swamps. springs) including border areas	▪ Decline water quality consequences pollution from residue ingredients agrochemical ▪ Conversion land on the border river
	Function absorption and control erosion in hill areas steep	▪ Logging wood

		▪ Fire land
	Potency service pollination in forest areas secondary	▪ Conversion land ▪ Logging wood ▪ Fire land
HCV 5	River as community water sources	▪ Decline water quality consequences pollution from residue ingredients agrochemical ▪ Conversion land on the border river
HCV 6	The existence of religious and cultural sites	▪ Potency conversion land
HCS forest	Fragment vegetation naturally at the border rivers and forest areas dipterocarpa secondary density low	▪ Conversion land ▪ Logging wood ▪ Fire land

Table 4. Summary results evaluation threat to mark identified conservation

Conservation value	Index	Source Threat	Source Status Threat	Risk	Intensity Impact
HCV 1					
Species terrestrial RTE animals in the ecosystem forests (especially orangutans, also kalawiat. langurs. bird's predator. etc.)	2-9, 11- 13, 18 -20, 22-26, 31-34	Hunting animal	Some communities have become aware that capturing orangutans (and other protected animals) is illegal. However, hunting activites still persist, especiallu targeting for food sources such as deer and rabbit.	Decline population species animal RTE	Medium
		Orangutan- human conflict	Orangutans sometimes appear to plantation and farming areas especially to look for food.	Man feel threatened Then endanger orangutans and vice versa	Medium
		Opening fragment forest secondary density low	Some fragments forest secondary density low Already something is open become a field/ garden.	Habitat loss	Medium
Species of aquatic RTE animals (al crocodile. sero ambush. labi-labi. kura valve)	2-3, 8, 18-20, 22-26	Hunting animal	Hunting only done in a way opportunist	Decline population species animal RTE	Medium
		Water runoff carries agrochemical residues	Agrochemical residues from land agriculture in riparian areas	Decline quality of aquatic habitat	Medium
Species RTE plants (al lime. keruing. and ironwood)	3-7, 25-26, 32-34	Logging wood	There is still potential for timber, especially the ulin species. Logging is till occuring in some fragments of low densitiy secondary forest	Decline population species RTE plants	Medium
		Fire forests and land	Once happen fire big in 1982 and 1997, however in 11 years final incident fire classified low	Lost cover land forest	Low

			Opening fragment forest secondary density low	▪ Some fragments forest secondary Already something is open become a field/ garden ▪ Remaining land or Not yet attempted relatively limited	Decline population species RTE plants	Medium
HCV 3						
Fragment forest secondary density low in the ecosystem forest dipterocarpa mixture in rocks sediment	3-9, 13, 25-26, 31-34		Opening land in fragments vegetation experience become land cultivation	There is plan opening land for plantation for group farmer partners ; remaining land or Not yet attempted relatively limited	Damage and loss remainder fragment vegetation experience	High
			Logging wood	▪ A number of activity logging wood occurs in fragments of low-density secondary forest. More likely personal interset but there are also indications for business (sell and buy). ▪ Access to fragment forest secondary relatively good of them utilise road gardens and roads kingdom	Decline population species RTE plants	Medium
			Fire forests and land	Once happen fire big in 1982 and 1997, however in 11 years final incident fire classified low	Lost cover land forest	Low
HCV 4						
Environmental services base related function hydrology in water bodies (rivers. lakes. swamps. springs) including border areas	1-3, 5, 8, 10, 12, 16-30, 33		▪ Land erosion and pollution from residue material agrochemical ▪ Conversion land on the border river	▪ The riverbanks are still covered with natural vegetation, but some parts are dominated by palm oil plantations ▪ The remaining or undevloped land is relaitvely limited, including some riverbanks	Decline water quality and aquatic habitat Shallowing of water bodies	Medium
Function absorption and control erosion in hill areas steep	13-15		▪ Logging wood	There is still potential for timber, especially the ulin species. Logging is till occuring in some fragments of low densitiy forest	Lost cover vegetation so that ability absorption decreases	Medium
			▪ Fire land	There were major fires in 1982 and 1997, but in the last 11 years, the incidence of fires has been relatively low	Lost cover vegetation experience	Low
Potency service pollination in forest areas dipterocarpa	4-6		▪ Conversion land	There are plans to open land for plantations for partner farmer groups; however, the remaining or undeveloped land is relatively limited	Loss of agent habitat pollination	High
			▪ Logging wood	There is still potential for timber, especially the ulin species. Logging is till occuring in some fragments of low densitiy forest	Decline quality forest	Medium
			▪ Fire land	Once happen fire big in 1982 and 1997, however in 11 years final incident fire classified low	Decline quality forest	Low
HCV 5						

Bengalon River and springs as community water sources	Outside UM	▪ Decline water quality consequences pollution from residue ingredients agrochemical ▪ Opening land on the border river	▪ The riverbanks are still covered with natural vegetation, but some parts are dominated by palm oil plantations ▪ The remaining or undevloped land is relaitvely limited, including some riverbanks	Decline water quality	Medium
HCV 6					
The existence of religious and cultural sites	M1-M5	Potency conversion land	Threat classified low. fine public and the Company appreciates it site existence	Switch function	Low
HCS forest					
Fragment vegetation naturally at the border rivers and forest areas dipterocarpa	Overlap with HCV area	Conversion land. logging wood. and fire land Look threat against HCV 1, 3, and 4	View threat status against HCV 1, 3, and 4	Lost cover vegetation natural (HCS forest area)	Medium-High

Recommendation for management plan

Table 5. Recommendations management and monitoring of conservation areas in the assessment area

No	Conservation value	Map ID	Threat	Proposal Management	Proposal Monitoring
General Recommendations					
1	All HCV areas and HCS forests	All	See Threat table	▪ Determination and delineation HCV areas and HCS forests (conservation areas) and establishment team conservation area managers ▪ Formation group conservation area managers with mainly task to managing conservation areas so there are no more logging trees. encroachment. burning forest. and hunting animals ;	▪ Management Plan Preparation ▪ Record and document the management process carried out (every 6 months)

						▪ Engage in socialization with landowners and community groups to build a mutual understanding to preserve this area and prevent its conversion to other land uses. Draft a memorandum of understanding that includes the community's commitment not to convert the conservation area to other uses, and find a formula or agreement related to community land within the study area that is designated as a conservation area ▪ Install information boards about the conservation area and put-up boundary markers for the conservation area, and inform the surrounding community about the protection of the conservation area.; ▪ Prohibit forest burning and issue warnings to avoid actions that could cause fires. ▪ Ensure that no hunting of RTE species, endemic, and protected species occurs by all plantation staff, workers, and the community. ▪ Collaborate with palm oil plantation companies, HTI companies, the Forest and Land Fire Control Unit of the Ministry of Environment and Forestry, and the Fire Department for handling forest and land fires. ▪ Form a wildlife patrol team capable of mitigating wildlife conflicts, including animal rescue, in collaboration with relevant agencies such as BKSDA, NGOs, and the local community. ▪ Regulate the direction of land clearing in development areas (not conservation) so that animal species can move towards the conservation areas (HCV and HCS).	▪ Monitoring routine (every six month) conservation areas. al with take notes existence and population species animal RTE ▪ Data collection emerging threats to conservation areas along with elements in it ▪ Monitoring activity related with utilization resource natural like hunting. fishing and farming around conservation areas ▪ Patrol fire forest especially at times season drought
		HCV 1					
		2	Orangutan (*Pongo pygmaeus*)			▪ Prioritize the protection of important orangutan habitats within the assessment area.	▪ Calculation orangutan population in MU

			3-9, 13, 25-26, 32-34	loss. hunting and conflict with man	▪ Map sightings and the distribution of nests. ▪ Develop standard operating procedures (SOP) for handling human-orangutan conflicts. ▪ Form a special team to manage orangutan conservation. ▪ Provide training to employees for quick response efforts to avoid conflicts with orangutans. ▪ Install warning signs in orangutan crossing areas. ▪ Collaborate with relevant and competent parties (e.g., BKSDA, NGOs, and universities) in case of conflicts or conditions that cannot be handled internally.	▪ Determining the population sample for monitoring permanent ▪ Recording every appearance of orangutans in the garden area palm
		3	Kalawait (H*ylobates funereus*) and Lutung kelabu (*Trachypithecus cristatu*s)	13	loss and hunting	▪ Map the distribution of proboscis monkeys and silvered leaf monkeys to ensure the spread of their habitats. Once the habitat locations are confirmed, they should be designated as priority areas for management. ▪ Collaborate with relevant authorities to enforce applicable regulations, especially in cases of violations such as hunting.	Look the recommendation for general monitoring
		4	Bekantan (*Nasalis larvatus*)	18-19, 22-25	Habitat loss	▪ Designate the natural vegetation cover along the Bengalon River (within the HGU) as a conservation area ▪ Ensure that no logging or encroachment occurs in the riverbank areas.	Look the recommendation for general monitoring
		5	Beruk (*Macaca nemestrina*) and kera ekor panjang (*M. fascicularis*)	9, 26	Considered pest agriculture	Development of techniques to drive away pig-tailed macaques and long-tailed macaques from palm oil plantations and community fields so that they shift their roaming areas to natural habitats.	Map location disturbance second species to land cultivation
		6	Beruang (*Helarctos malayanus*), rusa (*Rusa unicolor*), kijang (*Muntiacus muntjak*), kancil (*Tragulus spp*.), babi	3-7, 32-34	Hunting and habitat loss	▪ Conduct outreach to the community about the protection of these animals and the prohibition of hunting them ▪ Establish cooperation with BKSDA East Kalimantan, Environmental Law Enforcement, and the police to prevent and take action against the hunting of	Look the recommendation for general monitoring

			janggut (*Sus barbatus*)			bears and other protected animals, as well as the distribution of hunted wildlife	
		7	Bird predator. al Elang tikus (*Elanus caerulerus*), elang ikan (*Ichthyophaga ichtyaetus*), elang brontok (*Nisaetus cirrhatus*), elang wallace (*N. nanus*), etc.	3-7, 13, 25-26, 32-34	Loss of nesting habitat and hunting	▪ Ensure that fragments of natural vegetation serving as nesting habitats are protected (in line with general management recommendations). ▪ Conduct outreach about the hunting ban on protected birds, especially in the Management Unit (MU), both in plantation areas and conservation areas. ▪ Collaborate with relevant authorities to enforce applicable regulations, especially in cases of violations.	Look the recommendation for general monitoring
		8	Bird others. al Kangkareng perut putih (*Anthracoceros albirostris*), serindit melayu (*Loriculus galgulus*), Takur tutut (*Megalaima rafflesii*), kerak kerbau (*Acridotheres javanicus*)	3-7, 13, 25-26, 32-34	loss and hunting	Conduct outreach about the hunting ban on these birds within the Management Unit (MU) to all plantation staff and workers, as well as to the broader community. Security personnel stationed at the plantation entrance should be equipped with the ability to disseminate information on important wildlife protection policies and hunting bans, and tasked with preventing hunting activities.	Look the recommendation for general monitoring
		9	Buaya (*Crocodylus porosus*), Labi-labi (*Amyda cartilaginea*), kura katup (*Cuora amboinensis*), sero ambrang (*Aonyx cinereus*)	2, 3, 8, 18-20, 22-24	Aquatic habitat destruction. poaching for source food (labi-labi and turtle's valve) as well pets (all species)	▪ Prevent river pollution, especially from the application of agricultural chemicals in palm oil plantations. ▪ Install information boards on the Bengalon, Koran, and Mengkupa Rivers for passing boats, containing information about the presence of important wildlife. ▪ Prohibit the use of poison to catch fish. ▪ Manage water and river flow according to the recommendations in HCV 4 (High Conservation Value 4).	Monitoring water quality in lakes and rivers in a way periodically as possible done simultaneously with activity monitoring environment (RKL/RPL)

		10	Species RTE plants or endemic. for example: keruing (*Dipterocarpus cornutus*), kapur (*Dryobalanops lanceolata*), ulin (*Eusirodexylon zwageri*)	3-7, 25-26, 32-34	Logging wood	▪ Collaborate with relevant authorities to inspect timber produced from the study area. If violations are found, enforce regulations accordingly. ▪ Install labels or information plates about RTE (Rare, Threatened, and Endemic) plant species.	Look the recommendation for general monitoring
		HCV 3					
		11	Fragment forest secondary dipterocarpa rock sediment	3-7, 9, 13, 25-26, 31-34	Logging wood. conversion land. fire land	▪ The key aspect of managing HCV 3 (High Conservation Value 3) is ensuring the status of natural vegetation fragments that qualify as HCV 3. The company should collaborate with landowners to find ways to maintain natural vegetation cover without causing negative impacts on the landowners. Examples of alternatives include: The company purchasing the land designated as HCV 3., oint management, where landowners can utilize non-timber forest products and receive incentives for not converting the land., Other similar arrangements ▪ The company should explore the potential benefits from HCV 3 areas that could provide advantages to the landowners.	▪ The company and partner communities should develop a management plan that involves the landowners ▪ Conduct routine monitoring of the condition of these natural vegetation fragments every six years, particularly by recording any changes that occur. ▪ If logging or land clearing occurs, the HCV area managers are advised to promptly engage in a persuasive approach with the landowners to reach a mutually beneficial agreement that does not threaten the existence of the HCV area.

		HCV 4					
		12	Basic environmental services related to hydrological functions in water bodies (rivers, lakes, swamps, springs) including border areas	1-3, 5, 8, 10, 12, 16-30, 33	Land erosion and residue material agrochemical	▪ Install signboards and conduct awareness sessions for employees regarding the prohibition of agrochemical usage along riverbanks. ▪ Perform manual weeding in riverbank areas that are part of oil palm plantations. ▪ Mark boundaries of buffer zones according to the width of each riverbank. ▪ Construct sediment traps (overflow or gully plugs) in tributaries, particularly in areas with rough terrain. Materials used may include sandbags, stones, wood, or bamboo. ▪ Strengthen riverbanks prone to landslides through civil technical approaches or vegetation enrichment. It is recommended to use native tree species and/or those with deep and strong root systems, as well as dense foliage ▪ Construct "rorak" both in plantation blocks (silt pit) and on the sides of roads (roadside pit), especially in areas with bumpy areas	▪ Documenting activity socialization ▪ Prepare minutes documenting the installation of signboards. ▪ Monitoring function and perform maintenance on sediment traps (weir /overflow/gully plug) ▪ Monitor vegetation growth (% growth) in areas where vegetation enrichment has been carried out ▪ Conduct regular water quality checks (at least every 6 months) at monitoring points, namely river inlet and outlet within the study area. Checks should be done both visually and through laboratory testing.
					Logging wood	▪ Identify communities involved in timber logging activities ▪ Implement collaborative and participatory community empowerment programs, particularly targeting communities engaged in timber logging ▪ Install boundary markers for buffer zone areas corresponding to the width of each riverbank	▪ Documenting meeting with stakeholders ▪ Periodically (at least every 6 months), monitor the boundaries of riverbank areas designated as High Conservation Value (HCV).
					Conversion land on the border river	▪ Install boundary markers to demarcate buffer zone areas according to the width of each riverbank. ▪ Refrain from replanting in riverbank areas already cultivated with oil palm, in compliance with the buffer zone width of each river.	▪ Periodically (at least every 6 months), monitor the boundaries of riverbank areas designated as High Conservation Value (HCV). ▪ Accompany LC contractors and prepare reports documenting land clearing activities.

						▪ Conduct socialization sessions with LC contractors regarding the boundaries of riverbanks to avoid over-clearing. ▪ Collaborate and cooperate with communities, government bodies (from village to regional levels), other companies, and NGOs concerning river conservation programs and riverbank management.	▪ Document meetings held with stakeholders, recording discussions, decisions, and action points.
		13	Function absorption and control erosion in hill areas steep	13-15	Logging wood	See the management of HCV 1, 3, and HCV 4 (rivers) related to timber logging.	Look monitoring of related HCV 1, 3, and HCV 4 (rivers). logging wood
					Fire land	▪ Development of Fire Handling SOPs, Including Emergency Response Mechanisms and Reporting to Authorities ▪ Establishment of Fire Mitigation and Control Task Forces, Supported by Training and Facilities	▪ Documenting the Socialization of SOPs and Recording Reports ▪ Recording the Number of Fire Incidents, Accompanied by Documentation and Reports
						▪ Socialization on the Dangers of Land Fires and Installation of Related Sign Boards ▪ Collaboration with Communities, Village Governments, and Relevant Parties to Ensure Controlled Use of Fire for Land Clearing ▪ Maintenance of Potential Fire Break Areas, Such as Garden Roads or Elephant Ditches, including (i) Reducing the Availability of Fuel around These Areas, such as Palm Fronds, Branches, or Wood, (ii) Designing Roads with Slightly Raised Edges to Form Channels on the Roadside ▪ Maintenance of Roads to Support Emergency Fire Response Team Accessibility or Patrol Teams ▪ Mapping the Location of Water Sources for Fire Management ▪ Implementation of Fire Information Systems, Including Early Warning Systems Based on Drought Indices or Monitoring from Fire Towers, as well as the Potential for Fire Incidents or Fire Danger Rating Systems (FDRS)	▪ Coordinating with Surrounding Companies and Government Authorities, both Locally and Regionally, for Forest and Land Fire Mitigation ▪ Conducting Regular Patrols During the Dry Season, i.e., from July to September ▪ Monitoring Fire Break Areas, Especially During July-September ▪ Monitoring Water Flow at Water Source Locations for Fire Handling ▪ Documenting Reports Related to FDRS

		14	Potency service pollination in forest areas secondary	04-Jun	Conversion land. logging wood. and fire land	See the management of HCV 1 and 3 regarding the presence of forests.	See the management of HCV 1 and 3 regarding the presence of forests.
		HCV 5					
		15	River as community water sources	At AOI	Decline water quality consequences residue ingredients agrochemicals ; opening land on the border river	See the management of HCV 4 regarding rivers	See the management of HCV 4 regarding rivers
		HCV 6					
		16	The existence of religious. historical and valuable sites culture	M1-M5	Potency conversion land	▪ Registering Relevant Stakeholders for Each HCV 6 Area (old village, cemetery, etc.) ▪ Establishing Communication with Relevant Stakeholders (traditional leaders, heirs, community figures) ▪ Encouraging the Development of Management Plans to Preserve Each HCV Location Participatively	Biannual Meetings to Record the Progress of HCV Element Management and Document for each meeting
		HCS					
		17	Fragment vegetation naturally at the border rivers and forest areas dipterocarpa	Overlap with HCV area	Conversion land. logging wood. and fire land	See the management of HCV 1, 3, and 4 regarding the presence of forests.	See the management of HCV 1, 3, and 4 regarding the presence of forests.

Table **6.** Applicable management general for each HCV and HCS area

Confirmation of HCV -HCS Area	Socialization and Engagement HCV -HCS Area Management	Strengthening Capacity
▪ Do delineate HCV and HCS Maps. verify them. then set it as map definitive conservation area ▪ Make stake HCV and HCS area boundary markers ▪ Make board markers in the HCV and HCS areas	▪ Company internal ▪ Surrounding communities (government villages. institutions customs and society general) ▪ Instance government ▪ Companies around	▪ HCV and HCS area monitoring training (identification basic. measurement water quality and related matters with continuity) ▪ Application Standard Operational Procedures and policies for monitoring HCV-HCS areas consistent

Conclusion and Recommendations for Delineation and Demarcation Activities:

The field delineation and demarcation results indicate a reduction in the previously designated conservation area as outlined in the Integrated HCV-HCS Study. This reduction is primarily attributed to land use by local communities for agriculture or plantations, as well as timber utilization by landowners. The conclusions drawn from this study are as follows:

1. The Candidate Partnership Area of KUD Tepian Prima Sawit covers 1,070.4 hectares.
2. The Indicative Conservation Area of the KUD Tepian Prima Sawit Candidate Partnership is 959.6 hectares.
3. The Definitive Conservation Area of the KUD Tepian Prima Sawit Candidate Partnership is 517.4 hectares.
4. There is a difference between the indicative and definitive conservation areas, totaling 442.2 hectares. The definitive conservation area has decreased by 41.0% from the indicative conservation area (as determined by the Integrated HCV-HCS Study). The primary factors contributing to the reduction in the conservation area are community activities such as farming and timber harvesting.
5. Conservation values identified include HCV 1 as a refuge for the protection of RTE species, HCV 3 as threatened ecosystems such as Lowland Forests on Sandstone and Karst Forests on limestone, HCV 4 as natural cover along the Tebengan River and Kepayau River, as well as steep slope areas.
6. Then based on the results of socialization with the community and the Company, the proposed area to be developed is 196.1 ha, in which there is still a conservation area of 17.9 ha, in the form of HCV 1, HCV 3, and HCV 4 areas that must be left as a conservation area.

Based on the field findings, several recommendations are proposed for the management plan as follows:

1. KUD Tepian Prima Sawit should develop and implement a management and monitoring plan for the remaining conservation areas based on the results of delineation and demarcation activities.

		2. KUD Tepian Prima Sawit should establish institutional frameworks for the management and monitoring of conservation areas. 3. PT BPN (National Land Agency) should assist and facilitate KUD Tepian Prima Sawit in the management and monitoring activities of conservation areas. 4. KUD Tepian Prima Sawit should conduct socialization or educational programs for all community members and members of KUD Tepian Prima Sawit to prevent activities that may disturb or damage the conservation values in definitive conservation areas. 5. For degraded definitive conservation areas (such as rivers and their banks), KUD Tepian Prima Sawit should promptly undertake rehabilitation by planting local tree species. 6. Permanent demarcation signs should be installed in conservation areas using brightly colored zinc plates to facilitate field installation. 7. Placement of demarcation signs in conservation areas should prioritize locations that are easily visible.
3	**Stakeholder and local people engagement (FPIC process)**	Based on the results of the FPIC study, it can be concluded that this activity has been conducted among the communities with land within the partnership area of PT. BPN. These communities live in Tepian Langsat Village, Bengalon Sub-district, East Kutai Regency, East Kalimantan Province. In this village, there are stakeholders with different roles and interests directly related to the community for land management. The FPIC process or stages from Stage 1 to Stage 6 (Decision Making) have mostly been completed. Generally, the residents approve of PT. BPN's partnership program in Tepian Langsat Village, as indicated by the village head's approval and the handover of land management by the residents to PT. BPN through the Lansia Farmer Group and KUD Tepian Prima Sawit in Tepian Langsat Village. **Analysis Social Risk** The analysis of social risk factors is necessary to help minimize negative risks and enhance the performance of PT. BPN and its partners as the main actors in the partnership program. This risk factor analysis serves as a foundation for future social management, encompassing an analysis of strategic issues related to Natural Resources (SDA), Human Resources (SDM), Economic Resources (SDE), Social Resources (SDS), Physical Resources (SDF), as well as issues related to CSR programs. Once all strategic environmental and socio-economic issues have been assessed, the importance of these strategic issues is prioritized considering the following elements: • Consequences/Impacts is the level of severity/loss that may occur from an interaction between activities and the legal evironment, natural, and/or socio-economic environment. This can be related to humans, properties, the environment, and others. • Likelihood: the probability of occurrence as a result of project activities or operational activities of oil palm plantation partnership businesses.

Risk assessment for FPIC activities in successful partnership plantation areas has been identified, where this assessment also involves participatory community representatives adjusted with primary data from FGD results, interviews, direct observations, and other secondary data.

Table 7. Risk Factor Analysis Garden Development Plan PT Partnership. Bima Palma Nugraha

Factor	Score		Mark	Category	Risk Social
	Consequence	Possibility			
▪ The narrower it lands cultivated community (Agriculture)	3	3	9	Medium	• Social conflicts based on land can arise. • Acquisition of land by residents and its conversion into agricultural land.
▪ Potential happen problem claim land in Century front by group certain	3	3	9	Medium	Potential land claims between villages, as previously occurred between Tepian Langsat Village and Tebangan Lembak Village
▪ It happened changes in climate parameters temperature	5	1	5	Low	Land clearing will result in a change of land cover from vegetated land to open land. This will increase surface temperature and air temperature, as well as decrease soil moisture and air humidity.
▪ Potential cause happen flood	5	2	5	Low	As a result of vegetation loss, the land's retention capacity will decrease, leading to increased surface runoff, which ultimately increases river discharge.
▪ Increasing income and field Work for public	+	5	20	Negligible	• Increasing income for residents, especially those who are members of the Elderly Farmer Groups and members of KUD Tepian Prima Sawit, due to the expansion of partnership land with PT BPN. • Increased demand for company employees and partners.
▪ Appearance source income new for public	+	5	20	Negligible	Those who have not yet experienced the benefits of previous partnerships will also benefit now, as some of them may be part of the groups participating in the current partnership program, which they did not join in the previous partnership programs that have been established and yielded results.
▪ Management land become the more productive	+	5	20	Negligible	According to residents, the expansion area for this partnership is considered unproductive land after the past fire disasters because it is currently underutilized by residents. Therefore, it would be better if this land were managed through a partnership scheme with PT BPN company.
▪ Concern happen pollution environment especially river	3	3	9	Medium	• The use of environmentally unfriendly chemical and pesticides.

						• Plastic waste from fertilizer packaging, chemical, and polybag seedlings • Environmental pollution, especially of rivers. • Social conflicts between the company and village residents based on land. • Land acquisition by residents for agricultural purposes.
	▪ It's threatened system eye livelihood inhabitant as farmer	3	2	6	Medium	• Conflict social between companies and citizens village-based land • Acquisition land by residents and used as land agriculture
	▪ The level ability resident in Work	3	2	6	Medium	The agricultural, fisheries, and livestock results are not optimal, and there is a low proficiency among potential company partnership employees.
	▪ The more reduction of flora and fauna.	5	1	5	Low	Scarcity of protected wildlife and plants/trees.
	▪ Purchasing power low	5	1	5	Low	The demand from residents to be hired as employees by the company or as partnership employees will increase. Similarly, there will be demands for the implementation of social programs or empowerment initiatives.
	▪ System eye homogeneous livelihood	5	1	5	Low	There will be a dominant homogeneous livelihood in the palm oil plantation sector, leading to a decline in income from food agriculture.
	▪ Limitations market access	3	3	9	Medium	• Low selling prices for community-produced goods. • Demands on the company to build marketing access, especially roads.
	▪ Hunting areas are shifting and increasing at least animal prey	3	3	5	Low	• Decreasin ghunting income • Protest againts the company and partners • Increased demands from residents to be hired as employees

Recommendation

In every ongoing negotiation stage, evidence and documentation of activities, meeting minutes, attendance lists, and meeting notes for each negotiation stage must be provided. Recommendations for each stage of agreement drafting and negotiation should be available:

a. FPIC-based agreement drafts negotiated with affected communities. This document is expected to serve as evidence that the FPIC-based negotiation process has occurred repeatedly and has finally been agreed upon and documented before reaching an agreement with the Affected Community. As the process is iterative, there may be more than one draft agreement as evidence.
b. Meeting records serve as evidence that the affected community has access to information and advice regarding the proposed development's impacts and its implications on the agreed-upon agreements.

		c. Written evidence of agreements among relevant parties concerning the extent of legal rights, customary rights, and user rights regarding the collaborated land and evidence of procedures for affected individuals/communities stating their entitlement to compensation and benefits/allowances due to perceived negative impacts. d. Evidence of a final agreement or agreement signed jointly by all parties/representatives involved. Furthermore, as a complement to the application of FPIC values and principles and to ensure that the FPIC process is carried out properly, the results of implementation based on the signed agreements with partners are evidenced by: a. Documentation of activities and evidence of compensation and/or benefits provided to individuals/groups affected, where they are entitled to such compensation according to the signed agreements. b. The existence of SOPs related to complaint mechanisms as evidence that the implementing unit or management unit has mechanisms to address and resolve complaints effectively, in a timely manner, and appropriately. This complaint mechanism is also required to ensure that the rights of the complainant are protected, with no risk of retaliation or intimidation as a result of their report. c. The existence of conflict resolution and social remediation SOPs and records of community acceptance of the conflict resolution mechanism (if complaints have occurred) that have been implemented according to the complaints from the affected community. d. Joint commitment evidenced in writing regarding the implementation of Human Rights policies communicated to the affected residents (individuals/groups/communities). This policy prohibits retaliation against Human Rights Defenders and prohibits any potential intimidation or harassment. Some other recommendations categorized as additional recommendations include: a. Maintaining a participatory approach with the community to build trust and address negative social issues promptly. b. Planning and implementing CSR activities among the community according to their needs and considering emerging social issues within the community. c. Implementing risk management or social impact activities according to the FPIC and SIA studies conducted by the company so that the community understands that their concerns can be addressed collaboratively with the company. d. It is advisable for the company not to make promises to the community that cannot be fulfilled, as this could lead to loss of community trust and disappointment in the company. **Recommendation Plan** Some follow-up plans that can be carried out include: a. Continuing to socialize with the community regarding the development of PT BPN to promptly address negative social issues.

		b. Maintaining a participatory approach with the community to build trust and address negative social issues. c. Conducting a series of activities to delineate village boundaries and the area of potential partnership plantations of PT BPN for the preparation of spatial plans for opening or developing potential plantation areas, implemented collaboratively with the community, balancing the strategic plans for implementing assistance activities or CSR in community development. d. Formulating strategic policies related to the resolution of social issues categorized as medium and low, accompanied by the completeness of SOPs, monitoring forms, and evaluations. e. Coordinating comprehensively with local government authorities regarding the status of community land acquisition, land-based conflict resolution, and community development programs to realize the work plan for opening or developing partnership plantation areas of PT BPN in accordance with community aspirations, local initiatives related to environmental adaptation and mitigation around PT BPN. f. Conducting periodic monitoring and evaluation of work.
4	**Soil and topography**	Comprehensive and participatory assessments and management plans are based on several RSPO standard values, one of which is the land and topography suitability survey. This requirement necessitates the identification of areas (i) of marginal and fragile soils where extensive planting should be avoided or, if necessary, conducted in accordance with soil management plans for best practices, (ii) where land clearing cannot be conducted along riverbanks, (iii) where land clearing is not conducted on steep slopes (>25°), and (iv) where land clearing cannot be conducted on peatlands of any depth. This assessment will provide information on areas that can be cultivated and areas requiring cautionary practices. **Land Suitability** In the aspect of new planting, it is necessary to consider the environmental carrying capacity for the growth and development of the commodity to be cultivated. This can be assessed through the level of land suitability available. In further analysis, the land suitability value is represented by the symbols S1 (highly suitable land), S2 (moderately suitable land), S3 (marginally suitable land), and N (unsuitable land). Further study results show that the majority of the proposed KUD TPS area falls into the "suitable" category (S1 to S3) with a total area of 1,038.6 ha, while the N or "unsuitable" category comprises only a small portion (3 hectares). In contrast, the land suitability results for the designated plasma area of KUD TPS indicate that the entire designated plasma area falls within the suitable category (S1 to S3) with a total area of 196.0 ha, and the N or unsuitable category has a very small area of 0.02 ha.

Table 8. Class suitability land in the KUD TPS partnership area

Slope Class	Determination Area Plasma Chamber		Proposed Area Partnership TPS KUD	
	Area (ha)	%	Area (ha)	%
S1	95.2	48.57	340.7	31.8
S2	69.9	35.66	284.8	26.6
S3	30.9	15.76	413.1	38.6
N	0.02	0.01	31.8	3.0
total	196.1	100	1,070.4	100

General conclusions and recommendations

1. The partnership area of KUD TPS is dominated by ultisol and inceptisol soil types. These soils have a moderate acidity level, necessitating management through fertilization and the addition of humus to enhance their fertility for plantation use.
2. There are no histosol soils (organic soil or peatland) identified in the KUD TPS partnership area.
3. The topographic study indicates the presence of very steep slopes (>40%), but their extent is not significant, comprising only 3% (31.8 hectares) of the KUD TPS partnership area. Planting should avoid these areas due to the potential for erosion if the land is cleared.
4. The land suitability in the KUD TPS partnership area generally falls into the suitable category (S1-S3), covering 97% of the area, while the unsuitable category comprises only about 3%.

5	**GHG**	The calculation of net GHG (Greenhouse Gases) emissions, based on the RSPO New Development Greenhouse Gas Calculator procedure (version September 2021), considers three main aspects: GHG emission sources, GHG fixation sources, and carbon credits. The emission sources are derived from plantation activities and mill activities.

Net GHG emissions from plantation

The calculation results show that the new oil palm plantation will result in a carbon fixation of -627.56 tons CO2e. There are four components of new plant maintenance that are sources of GHG emissions. However, the largest carbon fixation comes from the growth of oil palm biomass.

Table 9. Projected estimates of net GHG emissions from new plantations

Sources	total Emissions (tons of CO_2e)	Emissions /Area (ton CO_2e/ha)	Emissions /Produced (ton CO_2e/t FFB)
Land clearing	773.61	4.16	0.44
Crop sequestration	-1,616.22	-8.70	-0.91
Fertilisers	107.29	0.58	0.06
N2O	80.14	0.43	0.05
Field fuel	27.63	0.15	0.02
Peat	0.00	0.00	0.00
Conservation credits	0.00	0.00	0.00
total	-627.56	-3.38	-0.36

Note : The value (-) indicates fixation carbon

Net GHG emissions from factory

The estimated factory emissions are based on the general management patterns of the company's operational factories. The sources of GHG emissions from processing in the factory include (i) factory waste (Palm Oil Mill Effluent/POME), (ii) fuel used for the factory (mill fuel), and (iii) purchased electricity for factory operations. The processing in the factory does not have any GHG absorption sources. Calculations show that the net GHG emissions from processing in the factory amount to 350.18 tons of CO2e.

Table 10. Projected estimates of net GHG emissions from factory processing

Sources	total Emissions (tons of CO_2e)	Emissions /Area (ton CO_2e/ha)	Emissions /Produced (ton CO_2e/t FFB)
POME	346.49	1.86	0.20
Mill fuel	3.70	0.02	0.00
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	350.18	1.88	0.20

Overall Net GHG Emission

Net emissions are calculated by summing the net emissions from the plantation and the processing at the mill. Overall, the largest source of GHG emissions comes from mill waste, while the only source of carbon fixation, and the largest value, comes from carbon absorption from the growth of new plants. The total net GHG emissions from the plantation and the mill indicate that the new plantation and its processing will result in net GHG emissions of -277.37 tons CO2e.

Table 11. Estimates net GHG emissions from plan planting new and processing in the factory

Field Emission (tonCO $_2$ e)	-627.56
Mill Emission (tonCO $_2$ e)	350.18
total Emissions (tonCO $_2$ e)	-277.37
total Emissions /Area (ton CO $_2$ e/ha)	-1.49
total Emission/Produced (tonCO $_2$ e/ tonCPO)	-0.60
total Emission/Produced (tonCO $_2$ e/ tonPK)	-0.60

GHG Emission Mitigation Scenarios

The scenarios are developed by reconsidering the primary sources or sinks of emissions identified within the potential areas for new planting that can be reserved for conservation, as well as operational practice options that can be applied to reduce GHG emissions. This study creates three scenarios for testing. The first scenario is the baseline, which shows the development plan and GHG emission projections without any mitigation efforts. The second and third scenarios present alternative development plans to reduce GHG emissions. The second scenario involves only maintaining conservation areas, while the third scenario includes the addition of methane capture facilities.

Table 12. New plantation development scenario

Scenario	Description
Scenario 1	Land clearing is conducted in all potential areas for new oil palm plantation development, including conservation areas. There are no planned methane capture facilities for the palm oil mill
Scenario 2	Land clearing is conducted in all potential areas for new oil palm plantation development, except for conservation areas. There are no planned methane capture facilities for the palm oil mill.
Scenario 3	Land clearing is conducted in all potential areas for new oil palm plantation development, except for conservation areas. There are methane capture facilities planned for the palm oil mill.

Treatment		S1	S2	S3
Areas to avoid for development	Conservation area	0 ha	17.9 ha	17.9 ha

Potential area for development new	Lowland forest Secondary Density Low	17.9 ha	0 ha	0 ha
	Shrubs	140.0 ha	140.0 ha	140.0 ha
	Bush	24.8 ha	24.8 ha	24.8 ha
	Field	7.7 ha	7.7 ha	7.7 ha
	Oil palm plantation	5.7 ha	5.7 ha	5.7 ha
POME Processing	Conventional	Y	Y	-
	Methane capture	-	-	Y

Table 13 Comparison projection net GHG emissions of each scenario

Emissions			
Source	**S1**	**S2**	**S3**
Field emissions & credit (tonCO $_2$ e)			
Land clearing	773.61	621.50	621.50
Crop sequestration	-1,616.22	-1,581.29	-1,581.29
Fertilisers	107.29	97.50	97.50
N2O	80.14	72.83	72.83
Field fuel	27.63	25.10	25.10
Peat	0.00	0.00	0.00
Conservation credits	0.00	-43.86	-43.86
Net Field Emissions	-627.56	-808.21	-808.21
Mill emissions & credit (tonCO $_2$ e)			
POME	346.49	314.86	32.75
Mill fuel	3.70	3.36	3.36
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
Net Mill Emissions	350.18	318.22	36.11
Net Field and Mill Emissions (tonCO $_2$ e)	-277.37	-490.00	-772.11
Net Emission/Production (tonCO $_2$ e/ tonCPO)	-0.60	-1.16	-1.83
Net Emission/Production (tonCO $_2$ e/ tonPK)	-0.60	-1.16	-1.83

Conclusion

1. Significant sources of GHG emissions from the new planting and plantation management plans consist of land clearing and mill waste, while GHG fixation sources consist of biomass growth.

<table>
<tr><td></td><td></td><td colspan="2">2. The net GHG emissions from the baseline scenario of plantation development and management are -277.37 tons CO2e, or equivalent to -0.60 tons CO2e/ton CPO and -0.60 tons CO2e/ton PK.
3. The study results in three alternative development scenarios: (i) the baseline development plan (without mitigation efforts), (ii) a development plan scenario with measurable GHG emission mitigation that preserves conservation areas, and (iii) a development plan scenario with measurable GHG emission mitigation that preserves conservation areas and includes methane capture facilities.
4. The implementation of mitigation scenarios results in a reduction of GHG emissions from the baseline, reaching 0.56 tons CO2e for the application of scenario 2 and 1.23 tons CO2e for the application of scenario 3.

Recommendation

1. Selecting and implementing the second scenario to minimize GHG emissions while still minimizing the operational costs of the company from the plan for the development and management of new plantations.
2. Developing more detailed and measurable mitigation and monitoring plans to be applied to company operational standards.
3. Integrating the selected mitigation scenarios with the plan for managing new plantations.
4. Increasing productivity as one of the efforts to reduce GHG emissions.
5. Identifying and implementing other mitigation efforts in day-to-day operational activities, such as electricity and fuel savings, among others.</td></tr>
<tr><td rowspan="4">6</td><td rowspan="4">Acceptance of Management Plans</td><td>Name of Person Responsible</td><td>Agustinus Triwibowo</td></tr>
<tr><td>Designations</td><td>Compliance & Management System Division Head</td></tr>
<tr><td>Signature</td><td>  </td></tr>
<tr><td>Date</td><td>17 May 2024</td></tr>
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