New Planting Procedure - Summary of Integrated Management Plan

NPP Reference Number	GGC-ECO-NPP-2025
Country of the NPP submission:	Papua New Guinea
RSPO Membership Number	1-0493-24-000-00
Reference to the management unit management plan	The company only has one estate.
Name(s) of estate(s) covered under this management plan:	Ecocycle Ltd

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 environment 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**	The key findings of the NPP were that Ecocycle had a suite of environmental and social procedures for management of their estates. These have not yet been totally rolled out. The process of implementation needs to be done to support RSPO certification The general conclusions from the SEIA assessor are that : - Ecocycle has undergone a very thorough FPIC process. The landowners have a good understanding of the requirements and benefits of

development. Furthermore, they have established ILGs.

- An HCV and HCS assessment has been completed that sets aside any areas of high biodiversity value or forest.
- Ecocycle has had considerable experience dealing with social and environmental issues. Though the company has to formalise these processes as they are done on an ad hoc basis at present.
- NBPOL has agreements in place with landowners that have resulted in tangible benefits. If these agreements are implemented in the additional blocks the landowners will benefit.

In the context of this, the assessor considers this a LOW RISK project form both a social and environmental perspective.

The key question that the SEIA is designed to answer is: what differences will there be in the quality of life of the communities as a result of the proposed development. It is the assessor's opinion that provided the existing environmental and social safeguards are applied the community will benefit from this project.

The SOPs include dispute resolution procedures where there are issues between the company and the community. Similarly Ecocycle has staff that can assist resolving internal disputes within the community.

Objective(s)	Action(s)	Timeline
Establish a development agreement with landowners.	Get the landowners to sign a mutually developed agreement	Prior to land clearing.
Ensure the whole community understands social SOPs	Socialisation of SOPs at community meetings	Prior to land clearing.
Ensure the ILGs are being properly managed.	Assist with the functioning of ILG where relevant.	Every 6 months.

Following the identification of management strategies the impact significance is reassessed to indicate the residual impact significance. This allows an assessment of the effectiveness of the proposed management strategies. The residual impact significance is also assessed on the likelihood and consequence of impacts occurring, as described in the table below.

Table 43. Positive Impacts of development

Ref	Impact	Details
1	Increased community income levels	Every community will have oil palm planted. This will mean revenue in terms of employment and royalties.
2	Improved access to health services for landowners and their families	Landowners living in the project areas have minimal access to health services. More development should mean there are resources available for additional health services.
3	Improved access to schools	Similar to health services, the only active school in the area is Poimbit. It is too far for other children to get there. As such, most of the children do not attend schools.

		Additional development should mean more children are able to afford schooling.
4	Improved housing for employees and their families	Almost all the people living in the area live in bush material houses. Additional money should mean semi-permanent or permanent houses could be afforded.
5	Increased skill levels among landowners	Ecocycle provides training to all workers so they can safely and effectively complete the work required of them. Additionally, the application of training packages undertaken by Ecocycle will increase skill levels among landowners and will provide opportunities for them to gain employment in other industries or other parts of Papua New Guinea in the future. Based on Kamale, (2020) "there are jobs available but the people are not suitable candidates because they are inadequately educated, trained and inexperienced."
6	Reduction in subsistence resources	Currently there is a very high level of reliance on natural resources. From appendix A.8, one can see there is a large amount of hunting. Many of the species are RTE species. Ideally if people have additional income their reliance on hunting would drop and the environment would recover. Similarly, there is a heavy reliance on fishing.
7	Increase in tax revenue which could enable social services to be provided.	Based on Kamale, (2020) services like "policing, law and order, health and education cannot meet demand or expectations." In theory, additional tax revenue should enable services to be provided.

Table 44. Negative Impacts of development

Ref	Social / Environmental Impact	Proposed Management Strategy	Timeframe
7	Roading in Sensitive areas	Ensure the road is gravelled and well maintained. Build silt traps so that run-off does not enter the river directly. Water monitoring Ensure a lining of native vegetation is maintained between roads and rivers.	Ongoing
8	Concerns regarding the quality of drinking water	Ensure there are adequate buffers between the plantations and streams. Test water quality where villages source drinking water nearby the plantation. This would be most relevant to the areas downstream of plantations. Conduct a regular water quality monitoring program Provide awareness on the results	Should be started before land clearing in order to establish a baseline.

				Assist communities in developing safe drinking water supplies (e.g. rain water tanks or bores). Rather than being a requirement, this could be part of the CSR program.	
		9	Concerns regarding air quality	Reduce speed limits in the vicinity of villages, schools and other facilities	Ongoing
		10	An increase in injuries caused as a result of increased vehicular traffic	Ensure all drivers are adequately trained and awareness provided on the importance of maintaining good relationships with local communities. (e.g. driving very slowly during dry season so that dust is minimised). NB: all drivers must have a valid PNG drivers license, which is a government responsibility. However, reinforcing safety issues to drivers (e.g. through toolbox talks is required). Conduct awareness within villages about keeping small children off the roads. Impose and enforce speed limits near all villages. Again speed limits are ultimately a government responsibility, but there should be constant reinforcement to drivers about driving slowly near villages and being very aware of people running onto the road.	Ongoing
		11	Social problems as a result of increased employment – increased opportunities could attract even more people to the area.	This is a very difficult issue. Any squatters camps have to be disbanded as quickly as possible. Ensure that only local people live in the villages. All newcomers have to be housed in compounds. If people are fired or resign – they have to leave the area.	Ongoing
		12	Social problems resulting from alcohol and drug abuse, as a result of higher income levels	Provide financial literacy and healthy living awareness to employees, landowners and their families, which will include and encourage saving practises, healthy diets and responsible behaviour Work in with the police to get people to surrender home brew kits and other weapons such as wire catapults.	Ongoing
		13	Reduction in subsistence resources (this is a positive impact)	Develop a program of development support for local communities to build strong relationships with the community (e.g. assisting	Ongoing

		communities install water tanks or ground water pumps).

2 **HCV areas and HCS forests**

The HCV / HCS assessment has mapped areas that are suitable for development and areas that cannot be developed. The area statement is included in Table 1. The key findings were that a very high proportion of the area proposed for development had to be set aside for conservation. The reasons for this are that :

- This is a forested and swampy landscape and finding areas that are grassland are more appropriate for development.
- Additionally it is a very wet environment, so there are a lot of swamps and rivers.
- Socially people relied heavily on the environment for their day to day needs. Though their day to day needs were sourced from the forests not the grasslands.
- Regarding FPIC, Ecocycle had been very thorough about ensuring that the principles of FPIC were upheld. This involved multiple meetings and discussions with the communities prior to the assessment. During the assessment the assessor ensured that all meetings had a good representation of the community and they provided input to the development plan. An additional layer of security was provided by the ILG process – which is a legal requirement to ensure that the land is in fact owned by the community and the community has bureaucratic processes to manage the land following development. The evidence of FPIC is the suite of Minutes of Meeting, interchange of letters between the company and the community and finally development plan maps that are signed by the community.

Table 1. Summary of environmental and social values (in hectares) identified during this assessment

Environmental and social values to be conserved	Area (ha) where the value is found(inside MU only	Management areas (ha)(inside MU only))[1]
HCS forest areas **(Value includes forests YRF or better)**	22,938.50	
HCV 1 **Value includes :** ***Endospermum medullosum*** ***Anisoptera thurifera*** ***Aquilaria malaccensis*** ***Diospyros insularis*** ***Casuarius unappendiculatus***	25,735.69	25,735.69

[1] HCV Management Areas are areas in a site, MU or landscape for which appropriate management decisions must be taken and implemented in order to maintain or enhance an HCV. Note that the HCV Area and the HCV Management area overlap in this assessment because PT Hijau Daun considers that if an HCV is found, the area that is mapped out as NO GO is the area that is required to maintain that HCV.

Haliastur indus ***Milvus migrans*** ***Haliaeetus leucogaster*** ***Accipiter cirrocephalus*** ***Goura victoria*** ***Eclectus roratus*** ***Probosciger aterrimus*** ***Cacatua galerita*** ***Charmosyna placentis*** ***Lorius lory*** ***Pseudeos fuscata*** ***Geoffroyus geoffroyi*** ***Rhyticeros plicatus*** ***Paradisaea minor*** ***Spilocuscus maculatus*** ***Phalanger intercastellanus*** ***Pteropus conspicillatus***		
HCV 2 **Large forested landscapes.**	25,735.69	25,735.69
HCV 3 **Overlaps with swamp forest**	25,735.69	25,735.69
HCV 4 **Overlaps with Forest in LDF condition or better .** **Overlaps with riparian / swamp areas** **Forests for protecting from catastrophic fires.**	26,508.95	26,508.95
HCV 5 **Overlaps with rivers and buffers.** **Overlaps with forests in condition of LDF or better.**	26,204.20	26,204.20
HCV 6 **Sacred areas** **Old Villages**	816.73	816.73
Total HCV area (all overlaps removed)	26,554.48	26,554.48
Peat	16.29	16.29
Area enclaved for community usage	77.57	
Totals (ha). Conservation + enclave areas with all overlaps removed.	29670.94+77.57 = 29,748.51	
Total Assessment Area	46568.33	

Total Developed / Developable Area	16,819.82	
Potentially Developable non-oil palm areas (this is a sub-set of the number above)	10,623.71 (6196.11 ha already oil palm)	

Mitigation and Monitoring Regime

The mitigation and monitoring regime is described in detail in the HCV HCS report but broadly consists of Social and Biodiversity Monitoring.

- Biodiversity monitoring – regarding hunting and gardening and cutting timber – this can only done for village use, not for selling externally.
- Social monitoring - assist where possible in getting basic services e.g. education, health and law and order.

action plan

Objective(s)	**Action(s)**	**Timeline**
Ensure no clearing and no burning of conservation and/or forest areas (about agriculture clearance, roading development, logging) and invasive species	• Mark out all conservation areas prior to development. Initially with flagging tape and then with signs • Agreement with the community that there shoukd be no commercial logging within the HCV areas. Subsistence level cutting trees for community use is allowed • Awareness raising in villages to discourage random fire lighting (especially in the kunai grasslands). Enforcement of the "No Burn Policy". • Very little can be done about invasive species • Roading through the HCV areas to access oil palm must be avoided, where unavoidable, damage to vegetation to be minimized. • Procedures in place to ban drainage of swamps and clearing of forest • Monitoring activities such as map out areas of burns,	Prior to development with annual on the ground monitoring

			recording the presence of invasive species, using a combination satelite image as well as the ground patrols and being informed by staff working in the village about encroachment or logging and ensuring the forest and swamp areas remain undisturbed.	
		No hunting bird/mammals on HCV-HCS areas	• Agreement with the community that subsistence level hunting for community use is allowed. • Undertake bird / mammals surveys to measure changes in bird mammal abundance/presensce	Annually
		Maintance of riparian buffer	• Ensure that the communities realise that the riparian buffers within company areas are not empty land available for agriculture. This should be specifically stated in agreements and socialized to the community. • A survey and demarcating areas that are within 50 m of rivers and planting native trees in these areas • Manage and maintain buffer zones consisting of natural vegetation. • Where there is already oil palm trees within the buffer this may be replanted if there is no evidence of environmental damage in the first rotation. No agricultural chemical should be applied in the buffer zone • Monitoring activities such as using a combination satelite image as well as the ground patrols and being informed by staff working in the village about encroachment or	Annually and six monthly

	logging, monitoring of land clearing to ensure buffers are not cleared, water quality monitoring and monitor the survival of trees on newly planted areas	
Ensure that the communities benefit from the development	Six monthly meetings with the communities. Asist in resolving disputes	Six monthly
Claims and disputes on land	• Ensuring adequate areas are available for the community to garden and collect natural materials (outside the lease area). • Mapping of clans' lands (not just those areas to be leased) and assisting to have the land included in the ILGs. This is to ensure security of the land and right to use the land in the future. • Ensuring all claims and disputes are registered under the company's grievance process. • Keeping abreast of disputes and providing assistance to the communities where possible or necessary	Annually and six monthly

The company has carried out final consultation with the community on 22-24, 26 & 30 January 2024 with agenda is presentation which detailed the purpose, methodology ang the general results of the assessment to community including monitoring and mitigate plan.

Management Team

The management team consists of :

- Legal Manager – developing the agreements between the communities and the company.
- Sustainability Manager – managing the conservation areas and community engagement. Implementing the recommendations of the HCV / HCS report.
- Operational Manager – Physical development of the oil palm estate within the assigned blocks

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<td>Stakeholder and local people engagement (FPIC process)</td>
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Within the HCV-HCS report, there are annexes that detail the Free, Prior, and Informed Consent (FPIC) process that took place before the assessment. These annexes provide comprehensive records of community engagement, consent documentation, and participatory mapping activities. The body of the report includes detailed minutes of multiple meetings conducted with communities and landowners, confirming that all affected stakeholders were adequately informed and had the opportunity to participate in decision-making.

The culmination of this extensive consultation process resulted in the development and conservation map, which was formally signed off by all respective parties, ensuring alignment with community expectations, land tenure agreements, and conservation commitments.

Additionally, the FPIC process is further supported by key agreements between the customary landowners and investors through Sub-Lease Agreements, which define land tenure security, revenue-sharing models, and the rights and responsibilities of all parties. These agreements include:

Mandiando Pandamdo Investment Ltd (ILG Mandiando Pandamdo) and Pacific Elite Investment Ltd – Agreement for Sagadik Land
Kasikimdo Klamdo Investment Ltd (ILG Kasikimdo Klamdo) and Pacific Elite Investment Ltd – Agreement for Kionung Kalkap Land
Sui Mosan Agro Ltd (ILG Sui Mosan) and Pacific Agro Capital Ltd – Agreement for Kaurinwia Land
Moks Lenga Agro Ltd (ILG Moks Lenga) and Pacific Agro Capital Ltd – Agreement for Sagim Land
Warakai Numbuk Investment Ltd (ILG Warakai Numbuk) and Pacific Agro Capital Ltd – Agreement for Yamban Land
Ripmanbara Holdings Ltd (ILG Ripmanbara) and Pacific Agro Capital Ltd
Anglando Makar Holdings Ltd (ILG Monjuon Kavin) and Pacific Agro Capital Ltd – Agreement for Singambe Land

These agreements serve as legally binding documents that confirm the voluntary participation of landowners, their understanding of the land-use arrangement, and their agreement to the development plan under FPIC principles.

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<tr><th>Key Action</th><th>Detailed Activities</th><th>Timelines</th></tr>
<tr><td>Pre-assessment and scoping activities</td><td>Initial stakeholder identification, scoping consultations</td><td>October - November 2022</td></tr>
<tr><td>Initial community consultations</td><td>Meetings and discussions with affected communities</td><td>November 2022</td></tr>
<tr><td>Participatory mapping exercises</td><td>Community-led delineation of development and conservation zones</td><td>November 2022</td></tr>
<tr><td>Development of conservation and community maps</td><td>Consolidation and finalization of community inputs into maps</td><td>December 2022</td></tr>
<tr><td>Formal signing of consent and agreements</td><td>Official documentation and ratification of Sub-Lease Agreements</td><td>January - February 2023</td></tr>
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<tr><td>Ongoing community engagement</td><td>Scheduled quarterly reviews with communities</td><td>March 2023 onwards</td></tr>
<tr><td>Implementation and follow-up actions</td><td>Continuous monitoring and management based on agreements</td><td>Continuous from March 2023 onward</td></tr>
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<tr><td>4</td><td>Soil and Topography</td><td>
Within the High Conservation Value (HCV) and High Carbon Stock (HCS) assessments, detailed FPIC processes were undertaken prior to initiating any development activities. Extensive community engagements and consultations took place, culminating in a mutually agreed development and conservation map, which was formally endorsed by the respective landowners and communities. Annexes included in the HCV and HCS reports clearly document the FPIC process, reflecting transparency and comprehensive community involvement.

A vital component of the FPIC and pre-development assessments was the detailed soil and topography survey, conducted in alignment with RSPO guidelines, ensuring responsible and sustainable oil palm cultivation. The Ecocycle plantation in East Sepik Province, Papua New Guinea, encompasses 46,568.33 hectares characterized by flat to gently sloping terrains, predominantly consisting of alluvial and sedimentary materials, suitable for oil palm cultivation.

Soil types identified within the area include Tropofluvents and Fluvaquents, typically moderate in fertility and suitable for sustainable agricultural use. While Tropofibrists and Troposaprists (peat soils) were identified, extensive field verification indicated that peat deposits were limited to undisturbed or forested swamp regions adjacent to the Sepik River, which have been earmarked as non-development conservation zones.

The FPIC process included disseminating detailed soil and topographic findings to the local communities and stakeholders, clearly communicating areas identified for conservation due to fragile soils, such as the peat regions and areas with slopes exceeding 25 degrees like Noah's Ark Hill. This proactive engagement ensured all stakeholders were fully informed of the limitations and potentials of the land, thereby securing their informed consent for proposed agricultural developments.

Ecocycle's plantation procedures are specifically tailored according to soil suitability as their mitigate as belows :
1. Mineral Soils (Tropofluvent and Fluvaquent):
 o Immediate planting of cover crops, such as Mucuna, post-clearing to minimize erosion risks from moderate soil erodibility and intense rainfall events.
 o Nutrient management strategies developed to address soil degradation issues primarily due to historical frequent burning, focusing heavily on nitrogen fertilization to restore soil fertility.
2. Peat Soils (Tropofibrist and Troposaprist):
 o Strict conservation measures implemented in areas identified as containing peat, prohibiting clearance and drainage activities to preserve existing water tables and carbon storage capacities.
 o Detailed peat surveys mandated prior to any potential nearby developments, ensuring peat preservation aligns with RSPO criteria.
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3. **Steep Slopes**:
    - Avoidance of all development on slopes greater than 25 degrees to prevent severe erosion and degradation risks, specifically around Noah's Ark Hill.

Through the integration of comprehensive soil and topographic analyses within the FPIC process, Ecocycle ensures environmentally sustainable and socially responsible oil palm plantation developments, fully supported by informed community agreements and aligned with RSPO principles.

Key Findings	Action Plan	Timelines	Responsibilities
Total conservation areas identified: 29,748.51 hectares, covering peat regions adjacent to the Sepik River and slopes greater than 25 degrees at Noah's Ark Hill.	Immediate planting of cover crops (e.g., Mucuna) post-clearing to minimize erosion.	Immediately upon land clearing, ongoing	Agricultural Management Team
Soil types suitable for sustainable agricultural use predominantly include Tropofluvents and Fluvaquents, with limited peat deposits in forested swamp regions.	Implement nutrient management strategies focused on nitrogen fertilization.	Annual nutrient assessments and management reviews	Agricultural Officer
Areas requiring environmental conservation due to fragile soil conditions were clearly mapped and communicated to local communities.	Conduct detailed peat surveys prior to development planning.	Prior to any development planning, ongoing	Agricultural Officer
	Implement strict conservation measures prohibiting clearance and drainage activities on peat soils.	Continuous enforcement, ongoing monitoring	Agricultural Management Team
	Avoid all development on slopes greater than 25 degrees.	Immediate implementation, continuous enforcement	Agricultural Management Team

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<tr><td></td><td>Continuous compliance actions based on soil and topography assessments aligned with RSPO New Planting Procedures.</td><td>Ongoing implementation and monitoring</td><td>Agricultural Management Team</td></tr>
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<tr><td>5</td><td>GHG</td><td>
The Sustainability Department will be responsible for GHG monitoring in collaboration with operations to ensure emissions are minimised. The recent GHG assessment conducted for Ecocycle Ltd highlights several critical findings that inform our ongoing approach:

The preferred development option (Scenario 1) conserves 35,892.95 hectares primarily comprising Disturbed Forest, Grassland, and Shrub land, contributing to significant carbon stock retention estimated at 2,984,390.49 tCO_2.
Under the selected scenario, a net negative carbon emission is achieved (-118.54 tCO_2e/year), emphasizing that more carbon is sequestered than emitted.
Key emission mitigation strategies identified include minimising the use of diesel and fertilizers, protecting identified High Conservation Value (HCV) and High Carbon Stock (HCS) areas from disturbance, and enhancing carbon sequestration through effective conservation practices.
Regular field inspections and quarterly monitoring using GIS mapping will ensure the integrity of conservation areas, maintaining the optimal growth and maximizing sequestration potential.
Annual carbon accounting will utilize the RSPO GHG calculator to ensure continuous and accurate GHG emission tracking and reporting.

Evidence of FPIC and key agreements with local communities relate of GHG not available but integrated HCV-HCSA assessment was available about FPIC process and there is consensus with communities to protecting or conserving HCV-HCS areas. It is relevant with one of GHG mitigation activities.
<table>
<tr><td>Parameter to be monitored</td><td>Proposed Enhancement / Mitigation Measures</td><td>Frequency</td><td>Responsibility</td><td>Estimated Time-frame for completion of task</td></tr>
<tr><td>Mitigate net GHG emissions associated with oil palm cultivation</td><td>Implementation of the HCV and HCSA prior to development. No conversion of HCV areas</td><td>Once</td><td>Sustainability Manager

Field Manager</td><td>Completed</td></tr>
<tr><td></td><td>All HCV/HCS areas within the estates to</td><td>Quarterly</td><td>Sustainability Manager</td><td>Following Development</td></tr>
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		Enhancement of Carbon Stocks	be managed as conservation areas to allow for carbon sequestration. Ensuring there is no access to settlers into the area.		*Field Manager*	
			Awareness to be carried out on the importance of maintaining HCV/HCS areas identified. This is to ensure no encroachment.	*Annual*	*Sustainability Manager* *Field Manager*	*Following Development*
			Monthly monitoring of all conservation areas. Enforcement of incursions (ie/gardening) through consultation with communities, removal of crops / settlers.	*Annual*	*Sustainability Manager* *Field Manager*	*Following Development*
6	**Acceptance of Management Plans**	**Name of Person Responsible**	Leslee Ng			
		Designation	Chief of Operation (COO)			
		Signature				

		Date	03 March 2025