



PUBLIC SUMMARY

FOREST PLANTATION MANAGEMENT
PLAN
FOR

DAIKEN FPMU

LPF/0003

1. INTRODUCTION OF DAIKEN FPMU

The Daiken FPMU license area (LPF 0003) is located in the Bintulu and Tatau Districts of Bintulu division and Mukah district of Sibu division in Sarawak, East Malaysia; lying approximately between latitudes 03 15'N — 03 24'N and longitudes 113 23'E — 113 29'E **Figure 1** and covers 5,901 ha where 5,463.5 ha is under Similajau Forest Reserve and 437.5 ha under state-land. The Forest Plantation will not be issued with land tittle. In accordance with the Forests (Planted Forests) Rules 1997, a License, No. LPF/0003 had been duly issued to Daiken Sdn Bhd for a period of 60 years from 8th December 1998 to 7th December 2058.

The approval of the extension areas is important to ensure uninterrupted supply of raw materials to the MDF plant. The current mill demand is 180,000m³ per annum and the total ITP wood supply possible from the LPF0003 area, including extension, is approximately 80,000m³/pa. This is the first Forest Plantation Management Plan (FPMP) of Daiken FPMU to define the scope and prescribed activities for the management of the License area for 5 years period commencing from January 2023 to January 2028. Revision of FPMP will be revised after conduct Internal Audit for any revise of HCV, Social Impact Assessment, policy, procedures and any minor or major that change by management.

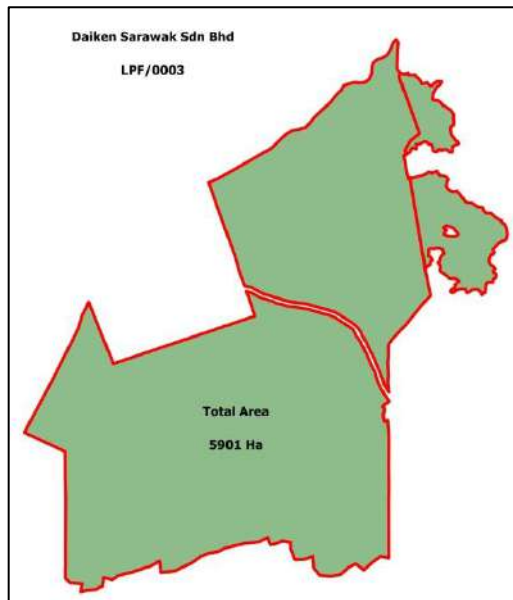


Figure 1: Daiken FPMU total Area

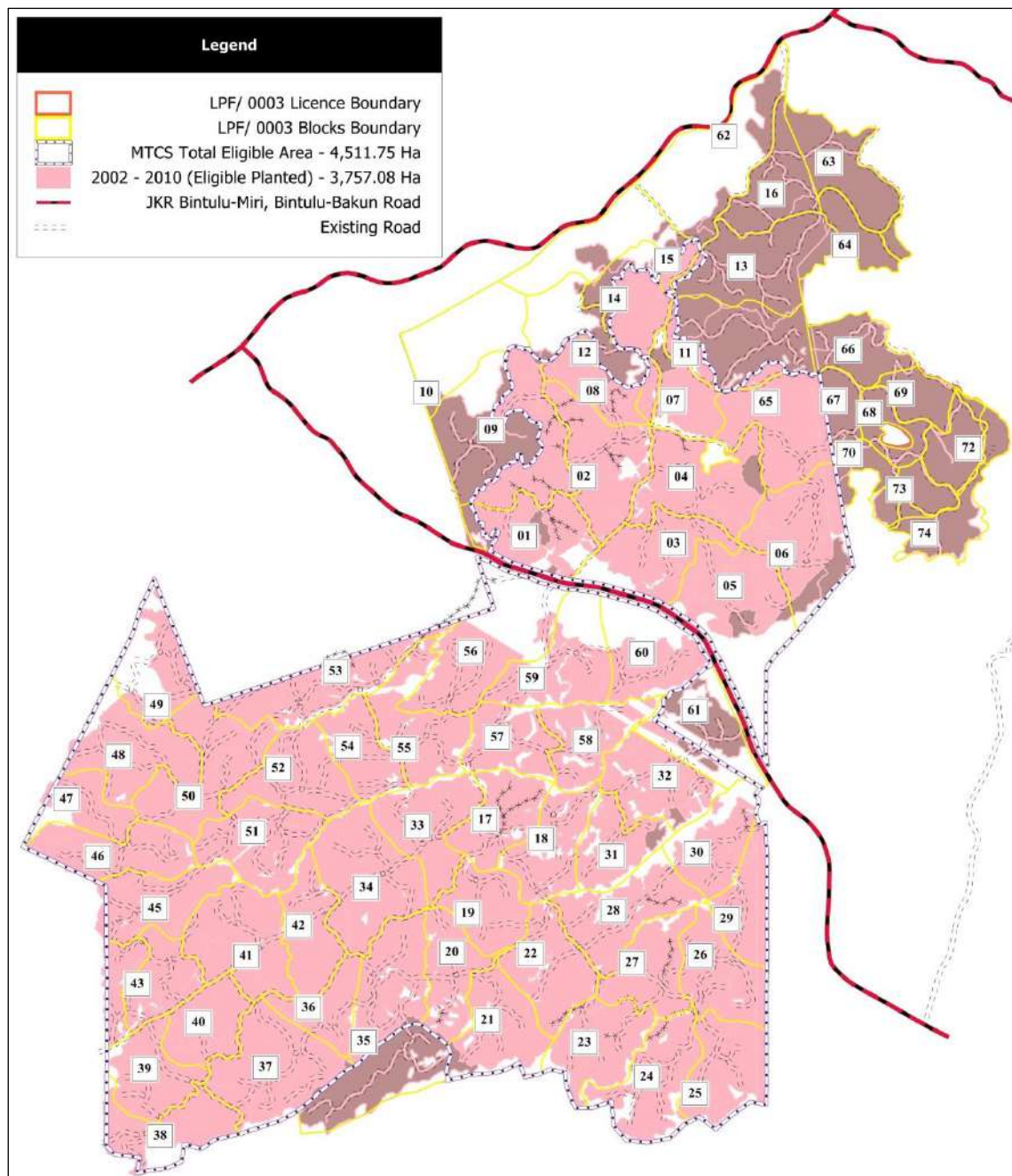


Figure 2: Eligible Area

2. POLICY OF COMMITMENT


Daiken FPMU has a number of policies that clearly stated the company position on the various subject matters concerned. Daiken FPMU is committed forest plantation management sustainability on ITP under Malaysian Criteria and Indicators for Sustainable Forest Management (MC&I) LPF/0003 and to comply with the Malaysian criteria and indicator of MTCCS by the Malaysian Timber Certification Council.

DAIKEN	DAIKEN SARAWAK SDN. BHD.
Title: Commitment Policy "Dasar Komitmen"	Doc No: DSK-PLT-005 Rev No: 0 Effective Date: 2 January 2023 Page No: 1 of 1 Approved By: Edward Lim

Daiken Sarawak Sdn Bhd was designated as a plantation forest with the purpose of producing wood material for use in the manufacture of Medium Density Fibreboard. Manage tree planting activities and harvesting activities at Daiken Bakun Camp (LPF/0003). This Policy of Commitment defines the company's commitment towards the Malaysia Criteria and Indicators for Malaysian Criteria & Indicator for Sustainable Forest Management (MC&I). This Policy will be a guideline for all levels of our employees and stakeholders in carrying out the company's business in a conscience manner.

Daiken Sarawak Sdn Bhd telah ditetapkan sebagai hutan ladang dengan tujuan menghasilkan bahan kayu untuk digunakan dalam pembuatan Papan Gentian Ketumpatan Sederhana. Menguruskan aktiviti penanaman pokok dan aktiviti penuaian di Kem Daiken Bakun (LPF/0003). Dasar Komitmen ini mentakrifkan komitmen syarikat terhadap Kriteria dan Petunjuk Malaysia bagi Kriteria & Petunjuk Malaysia untuk Pengurusan Hutan Lestari (MC&I). Polisi ini akan menjadi garis panduan untuk semua peringkat pekerja dan pihak berkepentingan kami dalam menjalankan perniagaan syarikat secara hati nurani.

- 1. Comply with all applicable laws, regulations and requirements related to planted forest management.**
Mematuhi semua undang-undang, peraturan dan keperluan yang berkaitan dengan pengurusan tanaman hutan.
- 2. Provide a safe workplace area according to occupational safety and health policy and ensure all employees are exposed or trained to occupational safety and health.**
Menyediakan kawasan tempat kerja yang selamat mengikut dasar keselamatan dan kesihatan pekerjaan dan memastikan semua pekerja didedahkan atau dilatih dengan keselamatan dan kesihatan pekerjaan
- 3. Ensure environmental degradation and pollution are prevented or controlled through an effective methods fulfil all conditions in the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP).**
Memastikan kemerosotan dan pencemaran alam sekitar dicegah atau dikawal melalui kaedah yang berkesan dengan memenuhi perkara yang terkandung di dalam Penilaian Kesan Alam Sekitar(EIA) and juga Pelan Pengurusan Alam Sekitar (EMP).
- 4. Promotes the use of environmentally friendly chemicals while minimizing the use of chemicals in best management practices and ensure only use approved and registered chemicals with the Pesticides Board of Malaysia under Pesticides Act 1974.**
Menggalakkan penggunaan bahan kimia mesra alam di samping meminimumkan penggunaan bahan kimia dalam amalan pengurusan baik dan memastikan hanya menggunakan bahan kimia yang diluluskan dan berdaftar dengan Lembaga Racun Perosak Malaysia di bawah Akta Racun Perosak 1974
- 5. Improved the skills, knowledge and competency of employee and local community through relevant trainings.**
Meningkatkan kemahiran, pengetahuan dan kecekapan pekerja dan komuniti setempat melalui latihan yang berkaitan.
- 6. Helping the local community by providing job opportunities and recognised all customary laws & Native Customary Right as defined by regional laws.**
Membantu masyarakat setempat dengan menyediakan peluang pekerjaan dan mengiktiraf semua undang-undang adat & Hak Adat Anak Negeri seperti yang ditakrifkan oleh undang-undang wilayah.



Edward Lim
Director/ Operation Manager

3. MANAGEMENT OBJECTIVE

The overall management objective of Daiken FPMU is to ensure the sustainable timber production of the license area with the balance in economic, environment and social. The timber produce from the plantation is important to sustain the quality MDF manufactured by the company.

4. MANAGEMENT SYSTEM

To increase value of plantation assets under our systematic control using improved genetic seedling, superior silviculture practices to sustain economic production of logs. We will achieve this objective while adopting responsible forestry practices certified under the Malaysia Criteria and Indicators for Sustainable Forest Management.

5. FOREST RESOURCE DESCRIPTION

5.1 Geology soil

Based on the Geological Map of Sarawak at 1:500,000 scales, the license area is underlain entirely by sedimentary rocks material. This substrate has given to predominantly Red-Yellow Podzolic (87.4%) solid with some alluvial soils (12.6%) found in isolated pockets (Agriculture Department). Among the podzolic group the predominant series is the Bekenu Series (73.8%) which can be described as fine, loamy and non-calcareous. The other dominant Podzolic soil group belongs to the Merit Series (13.6%) which differs from the Bekenu series being predominantly clayey instead of loamy. The alluvial soils fall into the Sedau series which can be described as clayey soils originating from non-calcareous sedimentary rocks.

5.2 Growing Timber Stock

The forest in license area that has been logged over and developed for planting of fast growing species with rotation of 5-10 years depend on raw material demand. Non-timber product such as rattan, bamboo, wild vegetable and wild vegetable and fruits are still available at none develop area such river buffer and terrain IV.

6. ENVIRONMENTAL LIMITATION

Generally, the license area is higher along its western and northern fringes, sloping towards Sg Lavang. Elevations range from 15 m (50 ft) above the mean sea level (amsl) in the valleys and along the riparian areas to over 158m (520 ft) amsl at the northwest, within Block 28. The bulk of the Daiken FPMU (99.6%) is endowed with undulating to steep terrain where the slopes are in the 5-35o range (Terrain Class II and Class III) while the remaining 0.4% (or 26.2 ha) has very steep slopes (>35o or Terrain Class IV).

7. FOREST ZONING

From the overall area of Daiken FPMU, the area is divided into 2 main zones which are ITP and non-ITP areas. The zoning was conducted based on development status, forest resources, terrain condition and sensitive areas. In the non-ITP area, the sub-zoning included Natural Forest Management (NFM) areas, ponds, riparian buffers, roadways, swampy areas, shifting cultivation and settlement areas.

Camp and other facilities	Area(ha)	Percent(%)
Homesteads and farmlands	963.33	16.2
Burial Ground	3.10	0.1
Riparian Buffer and Conservation	226.20	3.8
Steep Area (Terrain IV)	25.70	0.4
NON-ITP AREA	1,218.33	20.50
Camp and other facilities	6.67	0.1
Planted area	4,676.00	78.4
ITP AREA	4,682.67	78.5
TOTAL AREA	5,901.00	100.0

Table 1: Current land use

8. SOCIAL IMPACT ASSESSMENT (SIA)

Based on the data obtained during the Consultant's visits, about thirty (30) settlements are found inside and within 3 km of the Daiken FPMU [Note: there is one longhouse with two Tuai Rumah: TR Dana and TR John]. This longhouse is considered as one settlement in this study. Out of these 30 settlements, four (4) of the settlements namely Rh Semail, Rh

Dundang, Kpg Wawasan Jaya, and Kampung Wawasan Rajawali are located inside the Daiken FPMU. Together, there are approximately 4551 people in 709 doors, thereby averaging about 5 – 6 persons per door. The statistics of these settlements were presented and their locations are shown:

	Settlement	Ethnic	Doors	Population	Water Supply	Power Supply
1.	Rh Semail*	Iban	33	165	Rain water	SEB
2.	Rh Dundang*	Iban	26	150	Rain water	SEB
3.	Kpg Wawasan Jaya*	Malay	46	226	Rain water	SEB
4.	Kpg Wawasan Rajawali*	Malay	65	450	Rain water	SEB
5.	Rh Empaling	Iban	38	247	Gravity-feed/ Rain water	SEB
6.	Rh Rading	Iban	43	250	Rain water	SEB
7.	Rh Dana/ Rh John	Iban	32	200	Rain water	SEB
8.	Rh Dayong	Iban	15	120	Rain water	SEB
9.	Rh Padang	Iban	23	140	Rain water	SEB
10.	Rh Seliong	Iban	21	120	Rain water	SEB
11.	Rh Philip Usop	Iban	25	136	Rain water	SEB
12.	Uma Luhut	Kayan/Kenyah	20	120	Rain water	SEB
13.	Rh Dayang	Iban	24	230	Rain water	SEB
14.	Rh Christopher	Iban	20	130	Rain water	SEB
15.	Rh Kedi	Iban	19	126	Rain water	GENERATOR
16.	Rh Kepalin	Iban	20	210	Rain water	SEB
17.	Rh Nanang	Iban	15	97	Rain water	SEB
18.	Rh Sigah	Iban	17	92	Rain water	SEB
19.	Rh Achang	Iban	13	70	Rain water	SEB
20.	Rh Mandau	Iban	16	150	Rain water	SEB
21.	Rh Albert	Iban	12	70	Rain water	SEB
22.	Rh Sibat	Iban	30	150	Rain water	SEB
23.	Rh Tanjong	Iban	8	80	Rain water	SEB
24.	Rh Unor	Iban	13	61	Rain water	SEB
25.	Rh Jarau	Iban	19	120	Rain water	GENERATOR
26.	Rh Jakub	Iban	31	250	Rain water	SEB
27.	Rh Bekar	Iban	17	150	Rain water	SEB
28.	Rh Joseph	Iban	23	107	Rain water	SEB
29.	Rh Demong	Iban	13	88	Rain water	SEB
30.	Rh Sulong	Iban	12	56	Rain water	SEB
		Total	709	4551		

Table 2: Settlements in the Vicinity of the Daiken FPMU

Changes in lifestyle and culture are parts and parcels of economic progress that cannot be mitigated. Such changes should not be viewed too negatively. They will lead to a general increase in productivity, income and standard of living.

8.1 Education Facilities and Literacy Rate

Children from the villages surveyed go to SK Kem Batu 18, SK Sengian, SK Lavang and SK Sri Similajau for their primary education. These schools offer the full curriculum of primary school education. After completing the primary education, the pupils will go to SMK Bandar, SMK Bintulu to further their study.

8.2 Infrastructure and Amenities

Transportation and linkage

All the settlements are accessible by land transport. Rh Kepalin, Rh Dundang and Rh Semai are located along the Bakun Road. Rh Dayong, RH Dana/Rh John, Rh Rading and Rh Empaling are accessible via a secondary road that branches off the Miri-Bintulu Trunk Road at KM 144. Rh Demong and Rh Joseph are accessible via the plantation road of Semai Mekar Sdn Bhd (TAMACO). The remaining settlements are located along the Bintulu-Miri and Miri-Bintulu Trunk Road. The main vehicles of private land transport for the people here are motorcycles and cars.

Shopping

The people in the study region would go to Bintulu for shopping. The Bintulu Town is only about 1 hour journey from the settlements surveyed. Some local people also shopping their groceries around Halimantus shop (Miles 30) located along Bintulu-Miri road which take 10 -15 minutes to the destination.

Water supply

The people from Rh Rading are still relying on gravity-feed water and rain water for their potable water requirements. The source of the gravity-feed water supply is a small mountain stream at a higher elevation, outside the Daiken FPMU area. The people in the remaining settlements are dependent on rainwater, collecting, storing and using it for cooking, drinking, washing and bathing. They do not have access to public potable water supply.

Electricity supply and telecommunication

Rh Kedi has to depend on their own generators for their power supply. Most of 30

settlements know are supplied by the Sarawak Energy Berhad (SEB). Mobile phone coverage of major service providers is moderate at the Daiken FPMU and settlements around 3km from FPMU.

Health facilities

Health facility is generally not a problem for the people living in and around the Daiken FPMU. The villagers from these settlements usually seek medical treatments at the Bintulu General Hospital. There are other private clinics in the Bintulu Town.

Sanitation and solid waste services

The houses in the settlements surveyed were provided with pour-flush toilets with septic tank system to avoid direct sewage discharge into the rivers/streams. In Rh Bika, Rh Jakub, Rh Unor, Rh Albert, Rh Sigah, Rh Nanang, Rh Kepalin, Rh Semail, Rh Dundang the municipal solid wastes are collected by Bintulu Development Authority (BDA). In the remaining settlements, solid waste disposal is less satisfactory, with waste being either burnt or just thrown into river or open land.

Main construction material used for dwelling

Most of the settlements material used for dwelling are concrete. Meanwhile for Rh Padang, Rh Nanang, Rh Rading, Rh Dundang still was using wooden for their longhouse material.

Ethnicity and religion

Ethnic group of local community mostly Iban, Melayu, Kayan and from other ethnic such as Lunbawang and Chinese for mixed race. Some of local communities are Christian and some are still Pagan and Islam for Malay community.

Occupation and work place

Some of older community stays in the longhouse are not working and some of them are own the oil palm, paddy farm, fruit trees and collect vegetables outside from FPMU area as their income every month. Meanwhile, some of employed local community, educated

generation are rarely visit or stayed in the longhouse during normal day which they are going back to the longhouse during festival or events.

Dependence on nearest forest source within FPMU area for subsistence

Among 30 settlements there are 2 longhouses Rh Dundang and Rh Semail still dependent on the FPMU area as a dependency on the river bathing resources located inside the FPMU area. For instance, Rh Semail has an oil palm farm located within the FPMU area. While the other settlements that far from FPMU are not depending on forest sources inside FPMU area. Even though, the local community near the FPMU area does not allow doing hunting inside FPMU area.

9. PLANTATION ESTABLISHMENT

9.1 Choice of Species

Planting the right species is an utmost important factor that decides the successful of the plantation beside the least amenable factors such as soil type and climate. Besides that, the right species based on product types with the highest recovery and product quality is also considered to maximize the revenue of the company.

In 2002 a decision was taken to establish Acacia mangium based on the research conducted by Tsuyoshi Miyashiro (Forest Engineer) of the Techno Forest Co. Ltd. The Daiken FPMU site is comparable to Forestry Department's planted areas in Similajau, Labang and the Niah Forest Reserve and it was judged from the growth results in these areas, that Acacia mangium varieties, which are the least site selective, should perform well provided seed provenance is carefully selected and maintenance was adequately carried out. Acacia mangium exhibits a host of other characteristic that have made it the first-choice plantation species in South East Asia.

9.2 Nursery Practices

Based on the proposed annual planting rate of approximately 500-700 ha and an intensity of approximately 1600 plants to a hectare, the total seedling requirement annually (with a 40% allowance to cover nursery mortality, culling rejects and mortality in the field) is

between 1 million to 2 million seedlings. Currently, also seedling requirements are being met by external nurseries, many of which supply improved genetic material from their own research and seed production plantings. Consequently, Daiken has not constructed its own nursery. However, as it may do so in the future. The basic criteria for a nursery to handle this output would be a few hectares of relatively flat land with availability of water throughout the year. Daiken FPMU has identified a site located on the flat ground where the Bintulu-Bakun road crosses the Sungai Seran.

9.3 Site Preparation

Site preparation is major criteria before carry out planting the tree. All debris and vegetation have to clear. Site preparation activities remove or reduce competing vegetation, reduce or remove unwanted trees and logging debris and prepare the soil to promote the growth and survival of desired tree species.

9.4 Planting

The planting material is purchased from Borneo Tree Seeds, Seedling Supply Sdn Bhd, and GP Pusaka Sdn Bhd. Hence no nursery site is allocated for the Plantation. The purposed planting density is 1,600 trees per hectare with spacing 2.5m x 2.5m for 2nd Cycle and 3rd Cycle in the plantation area change from 1,111 trees with spacing 3.0m x 3.0m. The total plantable area is about 4,676 ha (1st Cycle), 4,289 ha (2nd Cycle-In progress) and 716.96ha (3rd Cycle-In progress). Approximately 4,418 ha total final area planted and 5% allowance for culling and res- supplying, approximately 7,422,240 seedlings will be required.

Species Planted	Planting Year														Total Ha
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2015	2016	2017	
Species Planted	173.53	312.33	307.29	155.64	228.11	423.12	306.10	434.72	510.34	425.89	-	20.77	290.24	61.69	3,649.8
	28.00	0.00	0.00	166.21	158.53	95.00	220.00	238.16	0.00	62.50	-	-	-	-	968.4
Eucalyptus Pelita	-	-	-	-	-	-	-	-	-	-	-	-	-	30.78	30.8
Eucalyptus deglupta	-	-	-	-	-	-	-	-	-	-	1.80	-	-	-	1.8
Shorea macrophylla	-	-	-	-	-	-	-	-	-	-	1.25	-	-	-	1.3
Falcataria Albizia	-	-	-	-	-	-	-	-	-	-	24.00	-	-	-	24.0
Yearly Total	201.53	312.33	307.29	321.85	386.64	518.12	526.10	672.88	510.34	488.39	27.05	20.77	290.24	92.47	4,676.00

Table 3: 1st Cycle Planting

10. SILVICULTURE

10.1 Weed Control

The control of weeds in the plantable area started just after site preparation and before planting. This weeding is to ensure that the undesirable growth is kept in check allowing the seedlings the full opportunity to establish, especially in the first 12 months and when the fertilizer is applied. Weeds control are important to ensure the planted seedling grow without competition for the available nutrients and moisture in the soil.

11. MONITORING OF FOREST GROWTH

11.1 Establishment of Permanent Sample Plots (PSPs)

Daiken FPMU just started 1st Permanent Sampling Plot in the end of 2022 and 120 PSPs have been established in the FPMU area. The PSP data are used to construct yield tables, to monitor forest growth in order to update Allowable Annual Cut (AAC), to determine yield each blocks to be harvested in the next 6 years to achieve the AAC and for long term production forecasts. The 1st PSPs plan to be established 242 PSPs in early 2022 due to lack of manpower there are just 120 PSPs distributed in the end of 2022. The plot area is randomly chosen, monitored and measured by FPMU staff once a year. Daiken FPMU carried out drone monitoring every 6 months to determine mortality in every planted area for estimated yield from past harvesting data and past PSP data. All PSP will be re-assessing on to see growth performance annually. During 2023 no re-assessment was conduct due no operations and no manpower.

PSP SUMMARY ANALYSIS DATA				
AGES	AVERAGE DBH (cm)	AVERAGE HT (cm)	No Trees (pcs)	AVERAGE SURIVIVAL RATE (%)
1	7.1	6.9	1096	80
2	12.95	13.6	2692	70
3	15.26	14.5	4243	73
4	16.83	16.72	1501	78
5	18.3	16.1	241	80

Table 4: PSP summary analysis data

11.2 Growth Rates of the Planted Forest

Based on data retrieved from PSPs, based on actual harvesting 1st cycle and 2nd cycle. Calculation on UAV data based on High, Medium and Low Stocking Area.

12. ENVIRONMENTAL REQUIREMENT/MONITORING

12.1 Environmental Impact Assessment (EIA) Report

The Environmental Impact Assessment report for the LPF/0003 was approved by NREB Sarawak [(15) NREB/6-11/85 dated 4 July 2001].

12.2 Environmental Management Plan (EMP)

An EMP is recommended to be outlined in order to manage all the potential impacts identified in the report. EMP is a practical tool for the implementation of mitigation and protective measures identified in the EIA. The plan relates anticipated project activities to sensitive environmental factors, outlining policies and procedures for the protection of the environment. The outcome will minimize the risk of costly, time-consuming environmental issues, while maximizing productivity, bottom-line performance and goodwill. Daiken FPMU LPF/0003 get approval EMP on [18th September 2019 (18) NREB/6-3/2G/24].

12.3 Environmental Compliance Audit (ECA)

An environmental compliance audit is an independent evaluation of a company's environmental legal requirements and an assessment of how the company complies with those requirements. Based on natural resources and environmental audit rules 2008. The ECA was carried out within the requirements of Environmental Audit in the Natural Resources and Environment (NRE) Rules 2008 and also reflect the requirements and guidance provided relating to audit practice such as Natural Resources and Environment Ordinance 1993 (Cap. 84, Laws of Sarawak in Edition 1958) and Natural Resources and Environment (Prescribed Activities) Order, 1994. Two (2) Internal Compliance Audit will be conducted by company Internal Auditor (Competent Person) and One (1) External Compliance Audit will be conducted by External Auditor engage by NREB. NREB will carry out monitoring and inspection for site visit yearly.

12.4 Patrolling

DSK has been develop patrolling schedule to ensure the protected and HCV areas is remains intact, control encroachment, fire monitoring and to prevent/control unauthorized activities in forest plantation areas both on the ground method and using UAV.

13. IDENTIFICATION AND PROTECTION OF RARE, THREATENED AND ENDANGERED SPECIES

The guidelines used for identification and protection of ERT species of forest flora and fauna including features of special of special biological interest area:

- a) Wildlife Protection Ordinance 1998 (WLPO)
- b) International Union for Conservation of Nature (IUCN)

Sign boards has been installed at strategic locations. The entry to FPMU area shall be limited to the unauthorized person. A schedule for patrol for the year has been developed to control fire, hunting, fishing and collecting activities in the forest plantation areas. Signage detailing the Director of Forest Circular 6/99 have been erected in front of the entrance detailing 4 items:

- Employees of the Timber Companies are not to hunt in the licensed areas while they are in the employ of the company.
- Company vehicles are not to be used for hunting or for carrying meat of wild animals.
- Selling of wild animals or meat of wild animals is not allowed in the licensed area.

14. FEEDER ROADS ARE TO BE CLOSED AFTER THE FINAL BLOCK INSPECTION TO PREVENT FURTHER ENTRY OF VEHICLES. HIGH CONSERVATION VALUE FOREST (HCVF)

Daiken FPMU hereinafter is referred to as the Forest Plantation Management Unit (FPMU) is currently maintaining their forest plantation under the Licence for Planted Forest (LPF), No. LPF/0003, Bintulu Division (to be referred to as "Area of Interest" or "AOI" hereinafter) intend to be certified under the Malaysian Criteria and Indicators (MC&I) for Sustainable Forest Management (SFM) or in short MC&I SFM, a Timber Certification Scheme developed by the Malaysian Timber Certification Council (MTCC).

The FMU is required to meet the standards under Principle 9: Maintenance of High Conservation Value Areas as prescribed by the certification scheme. MC&I SFM is now the national forest management certification standard that specifies the requirements for the certification of sustainable forest management system of a specified forest management unit (FMU), either for natural forests or forest plantation. The Standard come into force on 1st January 2021 and supersedes the MC&I (Natural Forest) and the MC&I Forest Plantation v2 as the standard to be used for certification of forest management of natural forests and forest plantations in Malaysia.

The HCV assessment was conducted following the guidance provided in the Malaysia National Interpretations (MNI), 2018. The HCV assessment intends to achieve the objectives below.

1. To assess and identify High Conservation Values (HCV) within the defined FPMU boundary.
2. To propose if any required boundary delineation for any identified HCVs within the FPMU.
3. To make recommendations on basic management and monitoring procedures to maintain and/or enhance any identified HCVs.

14.1 HCV 1: Concentrations of biodiversity

Definition: *Concentrations of biological diversity including endemic species, and rare, threatened or endangered (RTE) species that are significant at global, regional or national levels. (Malaysian National Interpretation for the Identification of High Conservation Values. 2018).*

HCV	Indicators	Findings
1	Concentrations of biological diversity including endemic species, and rare, threatened or endangered (RTE) species that are significant at global, regional or national levels.	PRESENT

14.2 HCV 2: Large landscapes

Definition: *Landscape-level ecosystems and mosaics. Intact forest landscapes and large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance. (Malaysian National Interpretation for the Identification of High*

HCV	Indicators	Findings
2	Intact forest landscapes and large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance	NOT PRESENT

14.3 HCV 3: Rare ecosystems

Definition: *Rare, threatened, or endangered ecosystems, habitats or refugia.* (Malaysian National Interpretation for the Identification of High Conservation Values. 2018).

HCV	Indicators	Findings
	Any natural ecological/vegetation type may be considered to be an RTE ecosystems with further supporting evidence (e.g. scientific data or expert opinion indicating the importance of the ecosystem type in the regional or national context) is needed before HCV 3 presence can be confirmed	NOT PRESENT
	The presence of a protected area which is listed in the Master List of Protected Areas in Malaysia, and proposed protected areas	NOT PRESENT
3	Where ecosystem proxies (e.g. vegetation maps) strongly indicate the presence of CR ecosystems, even if these are inaccessible or have not been confirmed on the ground. In cases where detailed vegetation maps are not available, GIS modelling (based on soil type, elevation and climate) can be done to give suitable proxies for vegetation units	NOT PRESENT
	Any ecological/vegetation type considered to contain RTE species	NOT PRESENT
	For all of the above, even modified natural areas may be considered if the extent of degradation is not too severe as to prevent natural regeneration and ecological succession.	NOT PRESENT

14.4 HCV 4: Ecosystem services in critical situations

Definition: *Basic ecosystem services in critical situations including protection of water catchments and control of erosion of vulnerable soils and slopes. (Malaysian National Interpretation for the Identification of High Conservation Values. 2018).*

HCV	Indicators	Findings
4	Basic ecosystem services	PRESENT
	Essential ecosystem services in critical situations	NOT PRESENT
	Protection of water catchments and control of erosion of vulnerable soils and slopes	PRESENT
	Pollination	NOT PRESENT

14.5 HCV 5: Local people's basic needs

Definition: *Sites and resources fundamental for satisfying the basic necessities of local communities or indigenous peoples (for example for livelihoods, health, nutrition, water), identified through engagement with these communities or indigenous peoples (Malaysian National Interpretation for the Identification of High Conservation Values. 2018).*

HCV	Indicators	Findings
5	Does the forest area contain or is adjacent to any settlements.	PRESENT
	Local communities have or are claiming customary rights within the management unit or in the surrounding landscape	NOT PRESENT
	Significant reliance of NTFP by the community.	NOT PRESENT
	Wild food resources are critical in providing basic necessities	NOT PRESENT
	Most houses main structural material and household tools are made from locally available traditional/natural materials	NOT PRESENT
	Shifting/swidden cultivation is still practiced by the local communities	NOT PRESENT

14.6 HCV 6: Cultural values

Definition: *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* (Malaysian National Interpretation for the Identification of High Conservation Values. 2018).

HCV	Indicators	Findings
6	Cultural values of global or national significance	NOT PRESENT
	Values critical for local people at the site scale	PRESENT

Environmental and social values to be conserved	HCV Area (ha)	HCV Management areas (ha)
HCV 1, HCV 4 and HCV 5	252.4	90.1
HCV 6	3.1	-
TOTAL	255.5	90.1

Table 5: Summary of identified HCV area and proposed management area.

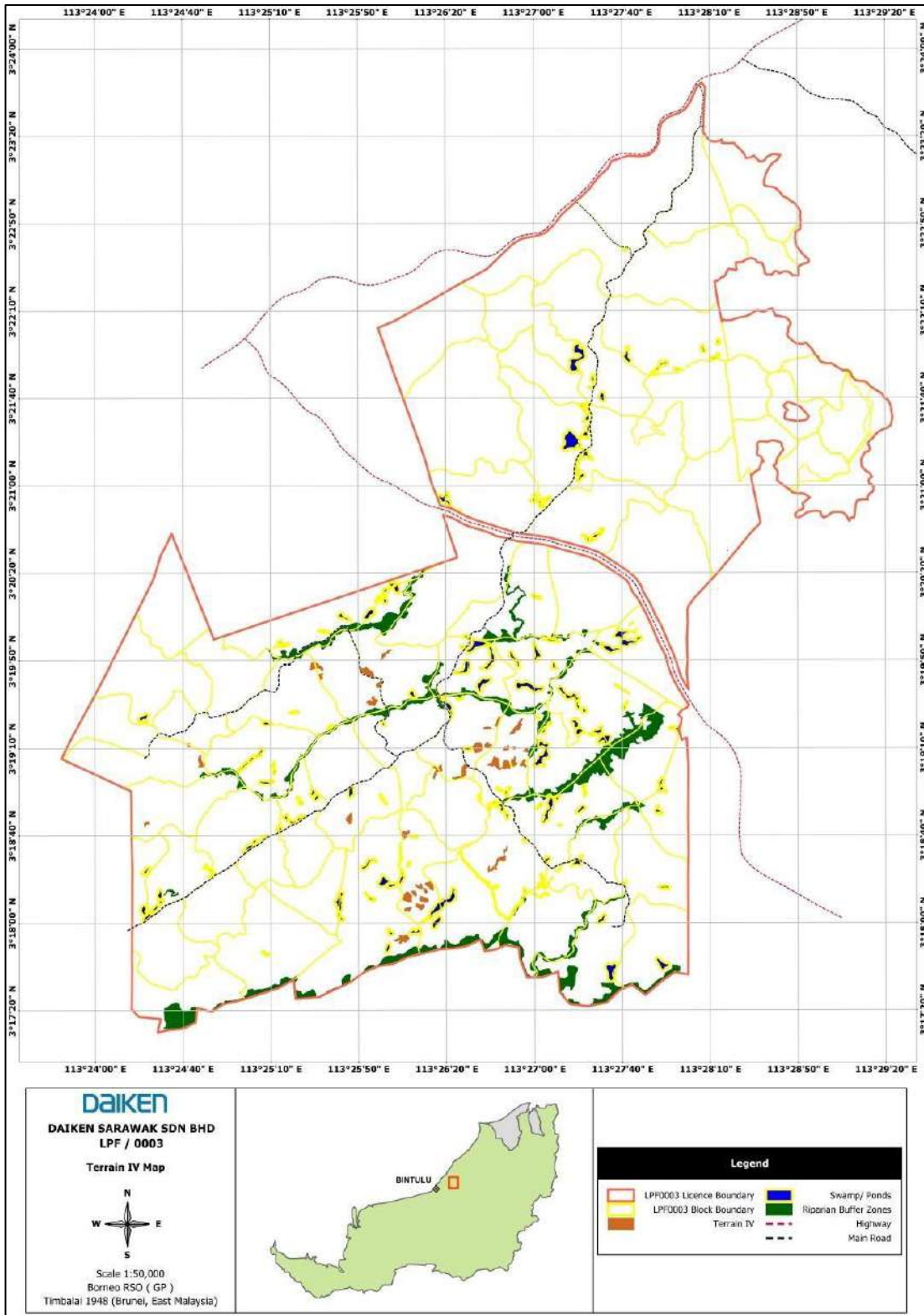


Figure 3: Existing Riparian Buffer Zone and Terrain Class IV within the AOI identified as HCV 4 and 5

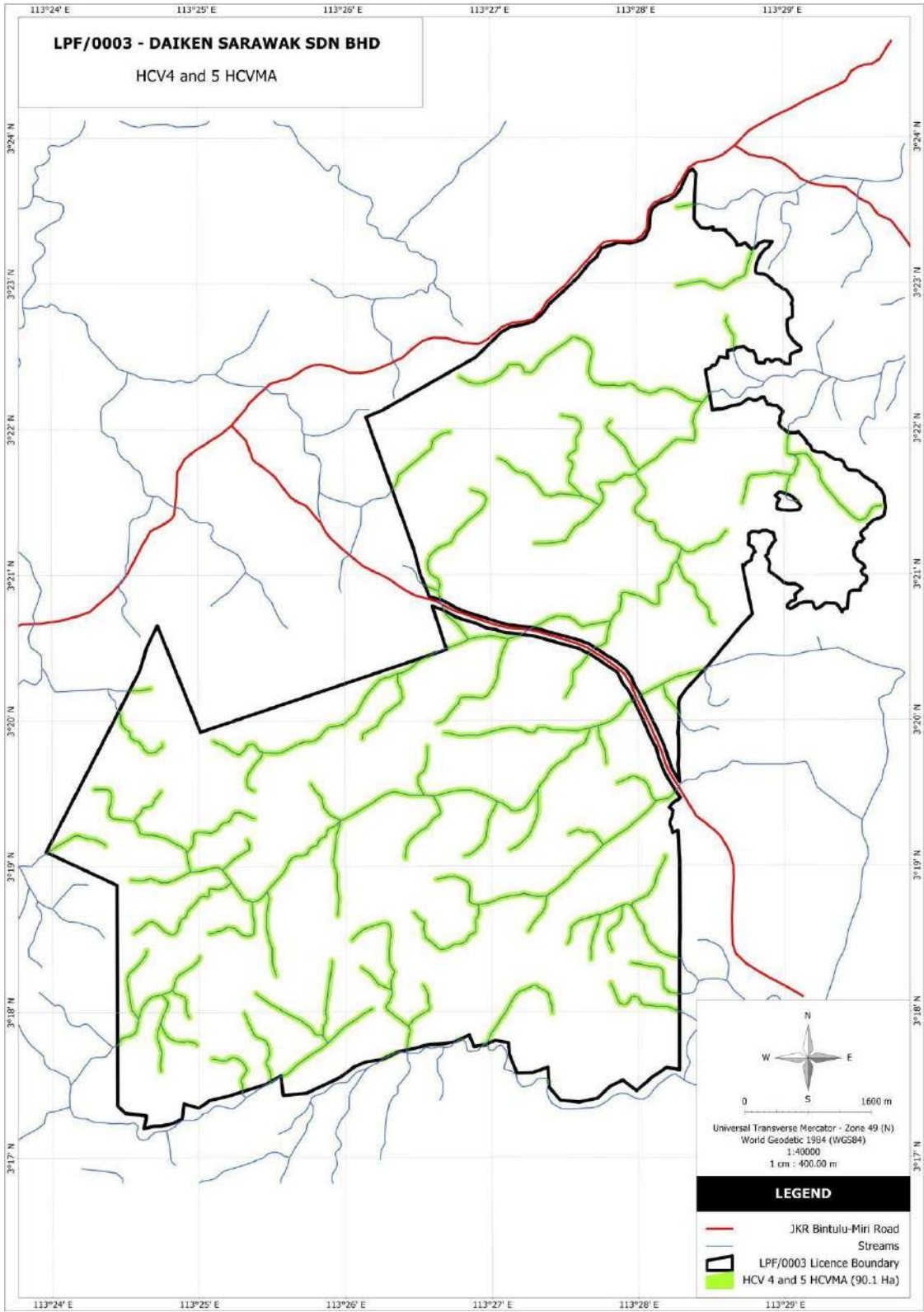


Figure 4: Proposed HCV 4 and 5 management area (HCVMA)

14.7 Management and Monitoring Recommendations

14.7.1 Threat Assessment

HCV	SPECIFIC HCV MANAGEMENT OBJECTIVE	IDENTIFIED THREAT	THREAT MANAGEMENT	THREAT MONITORING
1	Maintain RTE and other key species population Habitat for RTE species	Hunting Poaching Encroachment into remnant forest	No felling trees of encroachment into any remnant forest.	Periodic biodiversity monitoring by competent/qualified individual or organization. Regular patrolling and post harvesting monitoring.
2	Not Present		-	-
3	Not Present		-	-
4	Water quality is protected, considering that forest area along main water ways are water catchment areas to prevent a cascading effect to people's livelihood downstream.	New planting and harvesting activities River crossing Road construction	No disturbances to river buffers. All river buffers must be set aside according to the DID guideline as prescribed in the EIA. Avoid unnecessary river crossing. Road should be properly planned.	Monitoring any deteriorating quality of water source or river system in the AOI. Continuous assessment of river buffer conditions along rivers during and after harvesting activities.
	No degrading activities inside or near steep area (conservation areas)	Road construction Harvesting activities	Demarcate steep areas in operational map and on the ground.	Continuous monitoring of the condition of steep areas demarcated during pre and post harvesting activities.

5	Resources fundamental for satisfying the basic necessities of local communities or indigenous peoples	Road construction Harvesting activities	No disturbances to river buffers. All river buffers must be set aside according to the DID guideline as prescribed in the EIA.	Periodic monitoring of water quality from water source or river system in the AOI. Continuous assessment of river buffer conditions along rivers during and after harvesting activities.
6	Burial ground	Potential accidental clearance or encroachment by the contractor during harvesting operation	Map and demarcate with signage the boundary of burial ground.	Continue to conduct consultations with local community in monitoring the burial ground.

Table 6: Threat Assessment, management and monitoring

14.7.2 Recommendations for each value

HCV	SPECIFIC HCV MANAGEMENT OBJECTIVE	MANAGEMENT TARGETS	MANAGEMENT STRATEGIES	OPERATIONAL AND STRATEGIC MONITORING
1	Maintaining RTE species population through habitat conservation	To conserve and/or increase the population of RTE and enhance the quality of the existing habitat	<p>Joint research studies with organization or expert.</p> <p>Maintenance of forest fragments either by allowing regeneration or enrichment planting via Forest landscape Restoration (FLR) program where considered applicable.</p>	<p>Training on flora and fauna identification will provide better identification of endemic, threatened and endangered species.</p> <p>Wildlife experts are to be approached to assist in developing monitoring system for flora and fauna.</p>
2	Not present		-	-
3	Not present		-	-
4	Water quality and water ways are protected, considering that forest area along main water ways are water catchment areas to prevent a cascading effect to people's livelihood downstream.	To ensure healthy water quality for all river system in the AOI	All river buffers must be set aside according to the DID guideline as prescribed in the EIA, mapped and marked on the ground where operational blocks are active.	<p>Monitoring water quality for river system in the AOI according to the prescription by EIA.</p> <p>Continuous assessment of river buffer conditions along rivers during and after harvesting activities.</p>

	Maintaining steep areas to prevent major erosion	Conservation of identified steep areas	Demarcate steep areas in operational map and on the ground. Steep area are marked on the ground in active operational block.	Continuous monitoring of the condition of steep areas demarcated during pre and post harvesting activities.
5	Provisioning ecosystem services for basic needs of freshwater to local communities	Maintain and protect the water quality in the river system used by local communities	No disturbances to river buffers. All river buffers must be set aside according to the DID guideline as prescribed in the EIA.	Periodic monitoring of water quality from water source or river system being used by local communities. Pre and post harvesting monitoring of water quality along the river system used by local community.
6	Burial ground protection	Burial ground to be protected and conserved	Boundary of burial ground should be mapped and demarcated on the ground. Ensure the boundary are clearly demarcated or seen during harvesting operation in the Area.	Periodic patrolling or join monitoring of the boundary condition of the burial ground with local community.

Table 7: Threat assessment, management and monitoring.

15. HARVESTING OPERATION

15.1 Harvesting System Selection

The harvesting system used in Daiken FPMU will be ground-based harvesting system which involved the use of alpine grapple yarder used for pulling logs from the woods to a logging road with cables. Yarding is the primary harvesting system to be used at Daiken FPMU. As well as being economically more efficient the use of this system also helps to protect the fragile soils and in particular reduce erosion and compaction. Avoidance of the latter effect is of particular importance when replanting. This a cable system that enable partial or full suspension of felled trees when yarded to a landing for partial processing. Economics demands that extraction of trees harvested near the roadsides and in areas not suitable for shovel yarding must be cable harvesting system. Site damage will be limited by the use of shovel mounted grapples.

Other benefits of a yarding system include:

- reduced disturbance to soils on steep erodible sites;
- reduced compaction when compared to a ground-based system;
- it can be used from high vantage points minimising construction of new road infrastructure (this helps maintains water quality and minimises site disturbance); and
- it allows access to otherwise economically inaccessible areas. Full use is made of the existing roads and skid trails and little new roading is required other than short extensions of some access spur roads necessary for efficient harvesting.

16. ENVIRONMENTAL AND SOCIAL IMPACTS OF HARVESTING AND OTHER OPERATION

16.1 Environmental Impacts

Environmental Impact Assessment (EIA) is important to identify and evaluate the environmental consequence from the harvesting and planting program conducted within the FMU. It covers a wide scope and criteria such as buffer zone, water pollution, social or ecology effect. The environmental impacts assessment matrix is used to identify and depict the potential environmental impacts that may occur during the various stages of development. The nature of the environmental impact is categorized into seven (7) classes in accordance with the NREB's (1995) guidelines. They are:

- 1 - Minor adverse environmental impact
- 2 - Moderate environmental impact
- 3 - Major adverse impact
- A - Minor positive impact
- B - Major positive impact
- U - Potentially adverse, but insufficient information
- N - Insignificant impact

16.2 Environmental Impact Assessment Metric

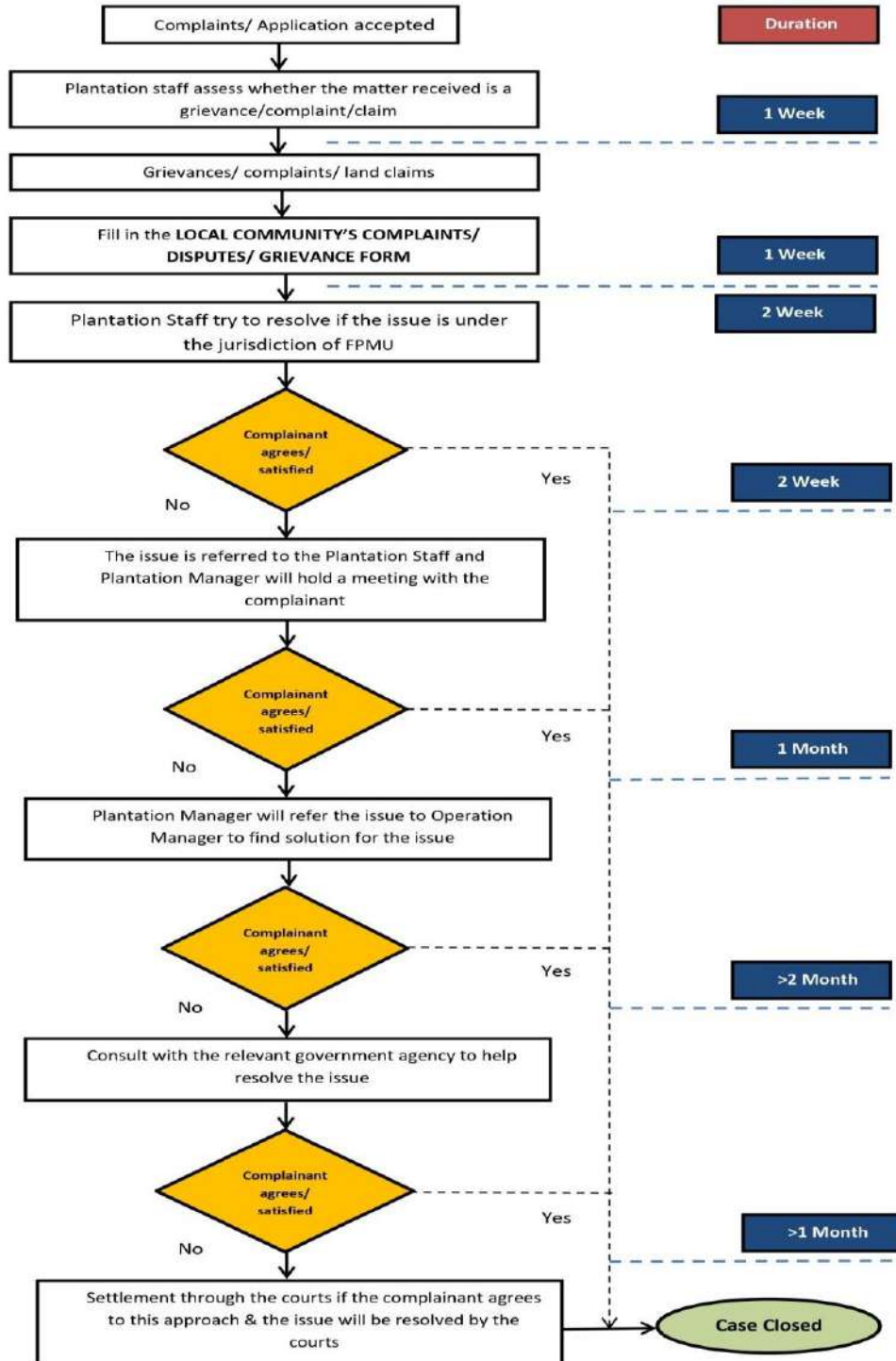
Possible Types of Impacts			PROJECT ACTIVITIES									
			Preliminary		Land Preparation			Field Establishment		Maintenance & harvesting		
1 - Minor Adverse Impact 2 - Moderate Adverse Impact 3 - Major Adverse Impact N - Non-significant impact A - Minor Positive Impact B - Major Positive Impact U - Potentially Adverse, but insufficient information			Site investigation	Clearing of vegetation	Stacking of green wastes	Burning (if practised)	Lining & holing	Field planting	Manual weeding & pruning	Pest & disease control	Felling/Harvesting	Abandonment
			Environmental Components	Soil	Surface Erosion	N	3	1/B	N	N	N/B	N
Landslip & Slope Stability	N	1			N	N	N	N/B	N	N	1	N
Soil Compaction	N	2			1	N	N	N	N	N	1	N
Soil Fertility	N	N			A	N	N	A	N	N	N	N
Hydrology	Water Yield	N		1	N	N	N	N	N	N	1	N
	Dry Season Flow	N		1	N	N	N	N	N	N	1	N
	Stormflow/Flood Response	N		2	N	N	N	A	N	N	2	N
Drainage	Sediment Load/Turbidity	N		3	N	N	N	N/B	N	N	3	N
	Chemical Quality	N		1	N	N	N	N	N	2	1	N
	Biological Quality	N		N	N	N	N	N	N	2	N	N
Ground Water	Water Table Recharge	N		1	N	N	N	N	N	N	1	N
	Groundwater Quality	N		N	N	N	N	N	N	1	N	N
	Aquifer Characteristics	N		N	N	N	N	N	N	N	N	N
	Existing Uses	N		N	N	N	N	N	N	N	N	N
Atmosphere	Local Climate	N		1	N	1	N	A	N	N	1	N
	Regional Climate	N		N	N	N	N	N	N	N	N	N
	Air Pollution (Dust, Smoke etc.)	N		1	N	3	N	N	N	1	1	N
Land Use	Adjacent Land Use	N		N	N	N	N	N	N	N	N	N
	Downstream Land Uses	N		N	N	N	N	N	N	N	N	N
	Vegetation	N		1	A	N	N	A	A	N	3	B
Species and Population	Birds	N		1	A	2	N	A	A	2	3	B
	Mammals	N		1	A	2	N	A	A	2	3	A
	Reptiles/Amphibians	N		1	B	2	N	A	A	2	3	A
	Invertebrates	N		1	B	2	N	A	A	2	2	A
	Fish	N		1	N	N	N	N	A	2	3	A
	Other Aquatic Life	N		1	N	N	N	N	A	2	3	A
Human and Socio-Economics	Domestic Water Supply	N		3	N	N	N	N	N	N	3	N
	Workers' Safety/Public Health	N		3	1	3	N	N	1	1	3	N
	Employment/Business	A		A	A	A	A	A	B	B	B	3
	Cultural, Historic Site	N		N	N	N	N	N	N	N	N	N

Table 8: Environmental Impact Assessment Metric

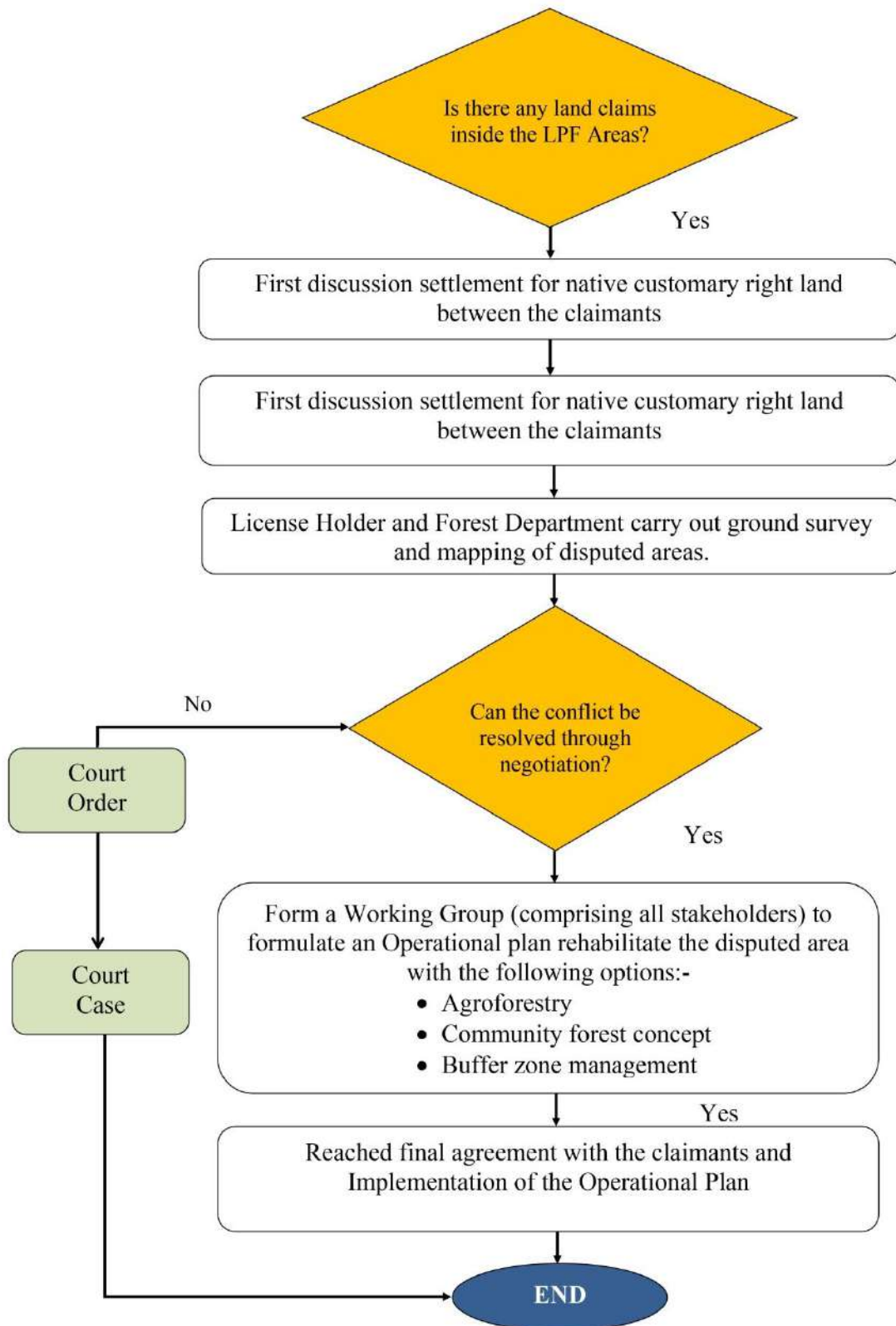
17. COMMUNITY ISSUE RESOLVING

Any conflict and grievances between local community and company will be resolved according to Mechanisms to Resolve Local Community.

17.1 Grievances Flow Chart



17.2 Native Land Claims Flow Chart



18. BUDGETARY

Annual budget includes the expenses of overall operations and activities namely; Overhead costs include admin, human resources, CSR, Protection, Land Preparation, Planting & Supply, Silviculture including social program, Amenities for workers, Safety, Staff training, research development etc.

19. CERTIFICATION STATUS

At the time of preparing this Public Summary the area of Daiken FPMU (LPF/0003) designated for tree plantation. The area designated for ITP had yet to be certified under any certification scheme. The intention is to certify those ITP areas which are eligible under MTCS. PEFC audit was conduct Stage 1 of the audit in February 2024 and done Stage 2 of the audit in 20nd – 22th August 2024.