

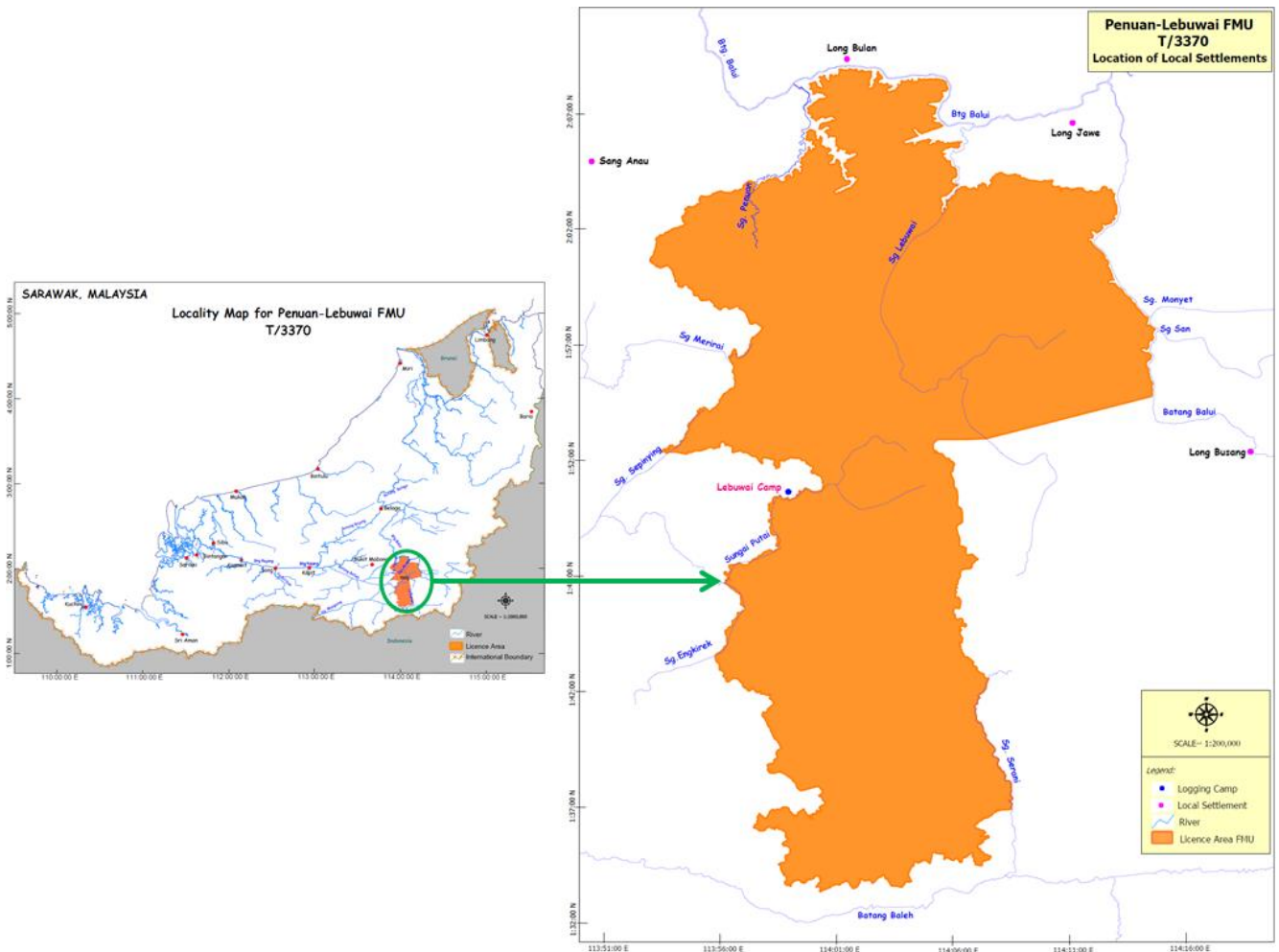
Penuan-Lebuwai FMU (T/3370)

Forest Management Plan (FMP)

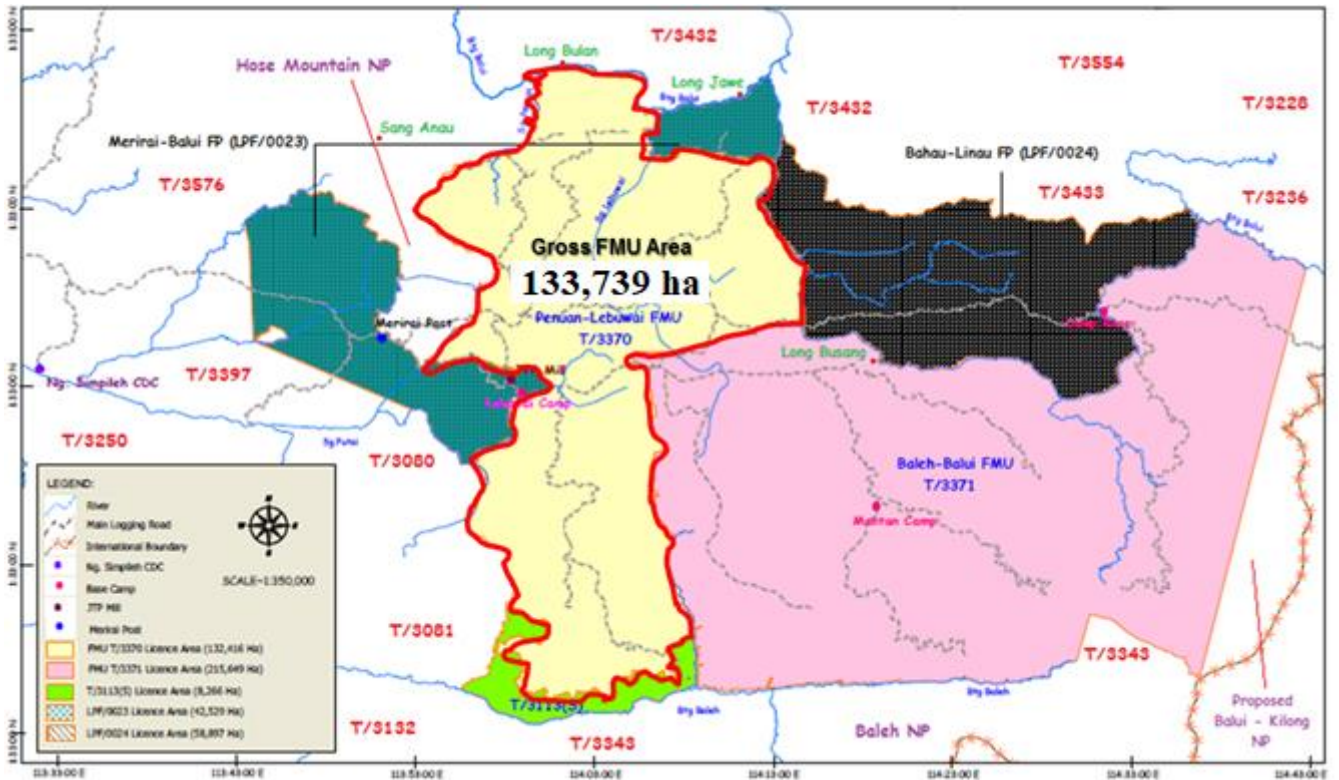
Background Information

- Penuan-Lebuwai Forest Management Unit (FMU) consists of Hill Mixed Dipterocarp Forest (HMDF) with a gross area under Forest Management Certification (FMC) of about 133,739 hectares.
- It is situated between latitudes 1° 33' 19.40" N – 2° 08' 55.93" N and longitudes 113° 53' 02.39" E – 114° 14' 43.66" E; with the altitude ranged from 150 m.a.s.l. – 1,200 m.a.s.l.
- It is being surrounded by various Forest Timber Licences (FTL) and Licences for Planted Forest (LPF) on the eastern, northern and western side of the FMU, while Hose Mountain National Park is located on the western up to North-Western part of the FMU. The South by East of the FMU boundary is about 2.4 Km from the western upper of the Baleh National Park boundary – being separated by salvage logging area (T/3113 (S)) and Batang Baleh.
- The FMU is not part of the *Heart of Borneo (HoB) Initiative*; however, its adjacent, eastern part (Coupe 24A) is bordering with that transboundary conservation area.
- The locality maps are as shown in **Map 1** and **Map 2**; while **Map 3** shows the access and log transportation routes for the FMU.

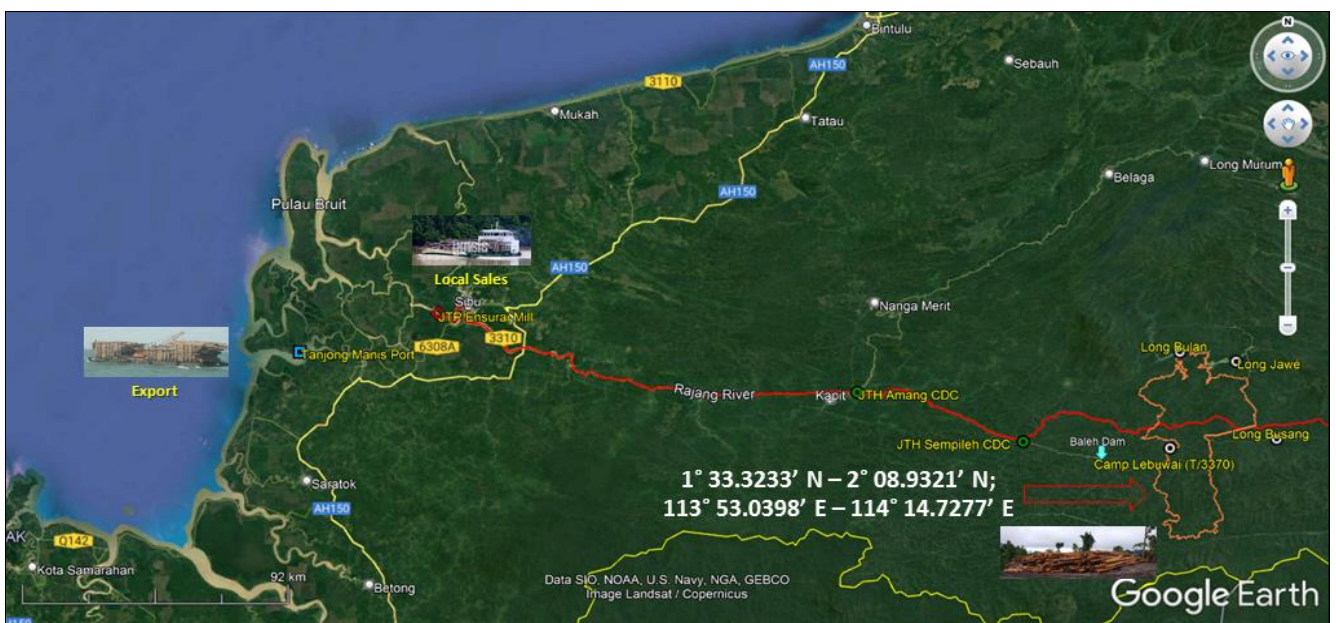
Map 1: The locality map of Penuan-Lebuwai FMU (T/3370).



Map 2. Various timber licences surrounding Penuan-Lebuwai FMU (T/3370).



Map 3: The access and log transportation routes showing the locations for (i) Penuan-Lebuwai FMU (the source of legal and sustainable timber); (ii) JTH Sempileh and JTH Amang (the collection and distribution centers); (iii) Sibiu (local sales point); and (iv) Tanjung Manis Port (the export point).



Legal Status

- FTL No. T/3370 (Revised) was granted by Forest Department Sarawak (FDS) on 30th April 2018 – as a result of amalgamation of FTL Nos. T/3113, T/3352 and T/3370 (Original) and re-delineation of LPF/0023.
- Jaya Tiasa Holdings Berhad is both the License holder (since June 1999) and FMU Manager; while Mantan Sdn. Bhd. is the main logging contractor.

The Essence

- The revised General Harvesting Plan (GP) Map – with 32 coupes and a 32-year cutting cycle – was approved by FDS on 7th March 2022.
- FDS has finally granted the full approval for the revised FMP on 1st December 2022; with a 32-year cutting cycle as stipulated in the current State policy on forestry matters. It aims to ensure that the management prescriptions for the 115,075 hectares of logged-over production area are complying with good forest management practices.
- The management objectives are:
 - a. the forest planning approach shall embrace the principle of multi-purpose forest management through matching differing interests in the equation and serving the needs of relevant stakeholders involved and affected by forest operations;
 - b. the forest shall be managed with the aim to maintain and/or enhance the integrity of forest ecosystem functions and also to strengthen its self-renewal capacity;
 - c. forest management measures shall be directed to optimize the production of high quality timber and non-timber products, taking into account the restrictions and needs arising from conservation efforts in relation to environment and ecosystem concerns cum socio-economic requirements;
 - d. the precautionary principle shall apply wherever the effects of an operational measures are unknown or potentially negative;
 - e. the planning, implementation and monitoring process of forest management shall be facilitated and supported by continuous consultation with the relevant stakeholders; and
 - f. in implementing the FMP, continuous effort shall be undertaken to improve and achieve its objectives, thus, contributing to the development of sustainable multiple benefits to all stakeholders in the FMU.
- With those clear defined objectives, the FMP also works towards the compliance of the *MC&I SFM* and other certification schemes that endorsed it.
- The mid-term review for the FMP is at every 15 years. However, it may be reviewed at a 5-year interval to include the latest monitoring results of High Conservation Value Area (HCVA), including research techniques and output that deem appropriate.
- In addition, the FMU has been awarded with Forest Management Certificate on 18th April 2023 and granted with a 30-year tenure by the Sarawak Government with effect from 18th August 2023 until 17th August 2053.

Key Management Policies

- The FMU is being governed by the following three key policies:
 - Sustainable Forest Management (SFM) Policy;
 - Health, Safety and Environment (HSE) Policy; and
 - Good Social Practices (GSP) Policy.

Forest Resource Assessment

- The FMU constitutes about 91.5% of Permanent Forest Estate (PFE; comprised of Baleh Protected Forest (PF) at 47%; Bahau PF (1st. Ext.) at 43%; and <1% of the combined Mujong-Merirai PF, Taman PF and Gayum FR) and 8.5% of Stateland (SI).
- The major forest type is Hill Mixed Dipterocarp Forest (HMDF).
- The FMU is able to produce harvestable timber volume at a rate of 1.0 m³/ha/year from its 115,075 hectares of logged-over production area. The projected yield vs. projected harvest over the 32-year cutting cycle is able to produce a surplus volume almost 2.0 million m³. Such outcome, however, needs to be further substantiated as more Permanent Sample Plots (PSP) assessment results are available.
- Application of RIL is based on selective harvesting; with log wincher-tractor combination is found to be the best option due to the hilly terrain condition and low timber stocking; where log wincher(s) will extract logs from the downward slopes to the skid trails; and tractor(s) will haul the logs to the log landings.
- The Annual Allowable Cut (AAC) is estimated at 53,941 m³/year over the harvesting period of 32 years.

Management Prescriptions and System

- The FMU adopts SFM as it is (i) socially compatible; (ii) ecologically and environmentally sound; and (iii) economically viable.
- More emphasis is on the Reduced Impact Logging (RIL)-related manpower and compliance assessment to attain (i) recognition for Forest Management Certification (FMC); and (ii) sustainability of forest resource.
- To accommodate the 32-year cutting cycle, a 32-year harvesting period has been planned. The environment shall be safeguarded through the maintenance of an extensive road network that currently serves the existing 32 coupes.
- Application of RIL is based on selective, tractor-based harvesting system; with possibilities to explore other similar harvesting system.
- The Pre-harvest inventory employs the approved cutting limits for harvestable trees at ≥ 45.0 cm diameter at breast height (dbh) for Non-Dipterocarps and ≥ 50.0 cm dbh for Dipterocarps. Potential crop trees (PCT) at 30.0 cm dbh and below the

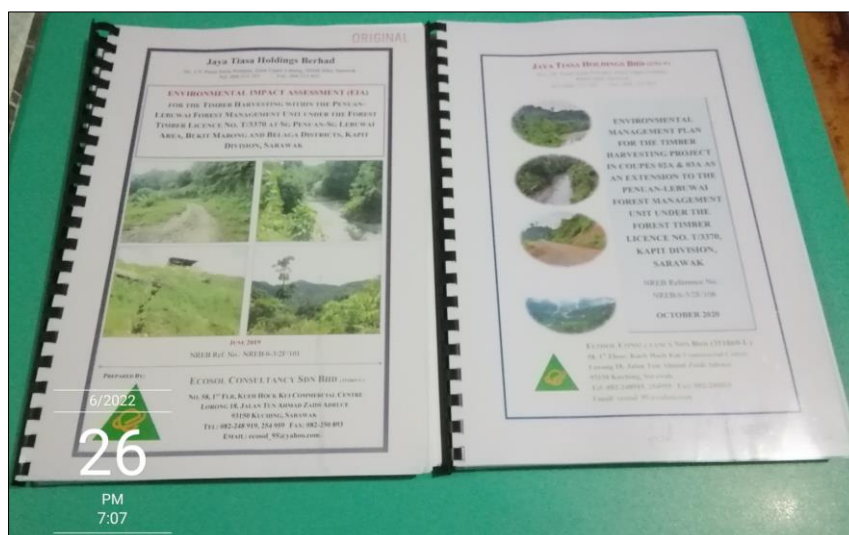
approved cutting limits are also being enumerated, together with seed, fruit and protected (SFP) tree species. Such inventory also employs climber cutting as a silvicultural treatment to liberate PCT and enable it to grow into desirable timber trees for the next harvest.

- In addition to establishment and assessment of PSP, Post-harvest Diagnostic Sampling (DS) plots have also been established to monitor logging damage and growth of residual timber stand.
- Forest Landscape Restoration (FLR) in post-logged blocks is done by planting indigenous tree saplings along the skid trails and log landings.

Environmental Considerations

- The Environmental Impact Assessment (EIA) Report entitled ‘*The Timber Harvesting within the Penuan-Lebuwai Forest Management Unit under the Forest Timber Licence (FTL) No. T/3370 at Sg. Penuan – Sg. Lebuwai Area, Bukit Mabong and Belaga Districts, Kapit Division, Sarawak*’ was approved by the Natural Resources and Environment Board (NREB) Sarawak on 23rd August 2019 (**Figure 1**).
- Subsequently, the ‘*Environmental Management Plan (EMP) for the Timber Harvesting Project in Coupes 02A and 03A as an Extension to the Penuan-Lebuwai Forest Management Unit under the Forest Timber Licence No. T/3370, Kapit Division, Sarawak*’ was approved by NREB on 3rd July 2021 (**Figure 1**).
- The FMU shall adhere to the mitigation measures as prescribed in both *General and Specific Terms and Conditions* of the approved EIA and EMP Reports.

Figure 1: The EIA report (on the left) and EMP report (on the right) for T/3370.



High Conservation Value Areas (HCVA)

- The WWF-Malaysia’s 2009 ‘*High Conservation Value Forest (HCVF) Toolkit for Malaysia*’ was the main reference for HCVA identification in the FMU in September 2017 and the report was produced in July 2018 (**Figure 2**). The presence of HCV attributes that shall be managed and monitored is being described in the ‘*Public Summary (for) Penuan-Lebuwai FMU (T/3370): Summary of Identified High Conservation Value (HCV) Attributes*’.
- Baseline wildlife studies (*i.e.* Biodiversity) have also been initiated in 2017 to identify the *Endangered, Rare and Threatened* (ERT) plants and animals; and the final report was produced in December 2017 (**Figure 3**).

Figure 2: The HCV report for T/3370.

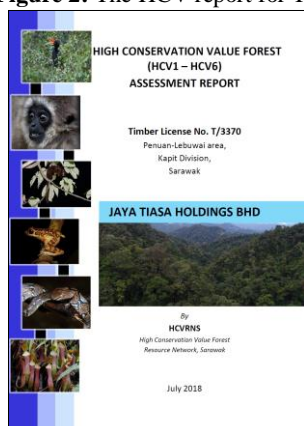
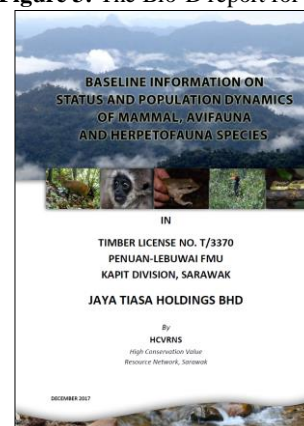


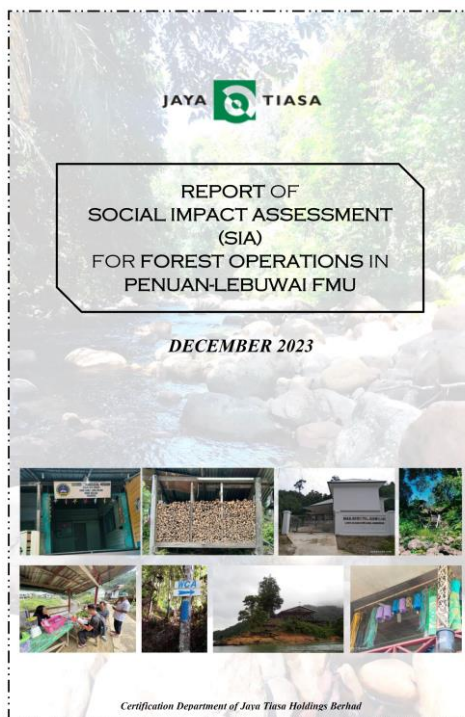
Figure 3: The Bio-D report for T/3370.



Well-being of Community and Forest Workers

- In 2024, JTHB has produced a report entitled ‘*Report of Social Impact Assessment (SIA) for Operations in Penuan-Lebuwai FMU*’ that covers Long Busang, Long Jawe, Sang Anau and Long Bulan (Asal) (Figure 4).

Figure 4: The SIA report for T/3370.



- There are four settlements found outside but at the vicinity of the FMU: (i) Long Jawe – to the north of the FMU; (ii) Long Bulan – also to the north of the FMU; (iii) Sang Anau - to the north-eastern of the FMU and (iv) Long Busang – to the east of the FMU (Maps 1 and 2). The locals are predominantly Kenyah.
- Nevertheless, Long Bulan was abandoned circa 2010/2011 due to the inundation of Bakun Dam; and some of its inhabitants have moved out to Sang Anau – situated to the west of the FMU (see ‘*Public Summary (for) Penuan-Lebuwai FMU (T/3370): Summary of Identified High Conservation Value (HCV) Attributes*’).
- Subsistence farming and the collection of Non-Timber Forest Products (NTFP) are the main traditional economic activities by the locals in the FMU area.
- Nowadays, some of them are being employed at the nearby timber camps and major towns. In this regard, the FMU is committed to prioritize job opportunities for them; and together with RIL practices, shall improve their economic and environmental wellbeing.
- Local communities are one of the important stakeholders in the FMU area. Therefore, each Community Representative Committee (CRC) for Long Busang and Long Jawe has been established and officially endorsed by FDS: (i) to foster good relationship between the FMU and the communities; and (ii) to interconnect with the relevant government agencies.
- On 12th May 2022, FDS has organized the ‘*Forest Management Certification Liaison Committee (FMCLC) and Stakeholder Consultation*’ at JTP Putai (Figure 5); followed by a community dialogue at Long Busang on 13th May 2022 (Figure 6).



Figure 5: The ‘*FMCLC and Stakeholder Consultation*’ that was held at JTP Putai on 12th May 2022.

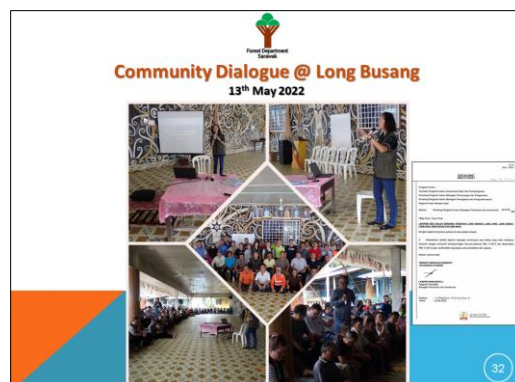


Figure 6: The ‘*Community Dialogue*’ that was held at Long Busang on 13th May 2022.

- Mutual understanding and benefits between the FMU and the communities also play an important role, as long as forest operations within the FMU area is concerned, particularly related to SFM and FMC. The FMU shall interact with affected communities by adhering to **Free, Prior and Informed Consent (FPIC)** principle; including mechanisms to address **grievances; conflicts**; including fair and equitable **compensation**.
- Social monitoring was conducted at Long Jawe and Long Busang on 20th – 21st August 2022 and 24th – 26th August 2022, respectively (**Figure 7**).



Figure 7: Social monitoring includes (i) social survey; (ii) distribution of posters and policies; (iii) water sampling; and (iv) information sharing.

- Baseline assessment was conducted at the old Long Bulan on 22nd – 23rd August 2022; and Social Impact Assessment (SIA) was conducted at Sang Anau on 30th August – 1st September 2022.
- To attain the well-being of forest workers, the FMU shall adopt both GSP and HSE Policies to provide good and safe working environment for its employees. The Complaint and Grievance Procedure (CGP) is also in place to better serve the workers' interests.
- The SIA for Penuan-Lebuwai FMU was conducted in August and July 2023 via interaction with communities of Long Busang, Long Jawe, Sang Anau and Long Bulan (*Asal*); and the report entitled '*Report of Social Impact Assessment (SIA) for Forest Operations in Penuan-Lebuwai FMU*' is available.

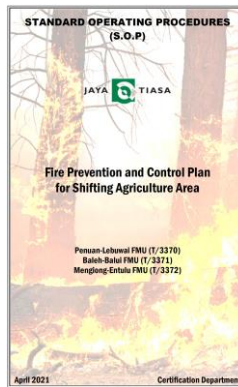
Monitoring

- Frequent monitoring is vital to evaluate the population dynamics of both flora and fauna (human aspects included), including the condition of the environment due to timber harvesting activities.
- Among the required monitoring to be implemented:
 - PSP: to evaluate current forest condition and tree growth rate; including the observed changes in the tree population;
 - Post-harvest DS: to evaluate current forest condition and tree growth rate; including the observed changes in the tree population;
 - HCVA (HCV 1 – HCV 6): to monitor any changes within the FMU, including the population dynamics of flora, fauna and local community, as a result of any changes in the State Government's policy pertaining to Protection Area; and also due to effects of timber harvesting activities;
 - SIA: to monitor the well-being and livelihood of local community (FMU forest workers included), as a result of timber harvesting activities that is taking place in the FMU;
 - Environmental Compliance Assessment (ECA) / Environmental Monitoring Report (EMR): to monitor and safeguard the environment (especially on harvesting practice, river water quality, *etc.*), as a result of timber harvesting activities that is taking place in the FMU; and
 - HSE: to monitor the well-being of FMU forest workers at their respective work place.

Forest Fire Management Plan and Climate Change Mitigation Measures

- The above plans are new addition to the FMP that include risk assessment, prevention and control measures. The '*SOP on Fire Prevention and Control Plan for SA*' is also available (**Figure 8**).

Figure 8: The ‘SOP on Fire Prevention and Control Plan for SA’ at FMU level.



Budget Allocation to Implement FMC

- Budget allocation is to be reviewed from time to time; to enhance the FMU’s capabilities in planning, implementing and monitoring its forest management and operations.

Research Collaboration

- The FMU is intended to collaborate with research institutions on PSP, Post-harvest inventory and wildlife population dynamics in the future, to keep on updates on its monitoring results.

Initiatives

- The FMU has undertaken remote Stage 1 Audit on 6th – 7th January 2022 and Stage 2 Audit on 27th June – 2nd July 2022; including Surveillance 1 Audit on 26th February 2024 – 1st March 2024 – against the *Malaysian Criteria and Indicators for Sustainable Forest Management* (MC&I SFM) certification program.

This document has been updated on 26th February 2024 (Monday).