



Suasana Pertiwi Sdn Bhd
A member of Samling Group of Companies

PUBLIC SUMMARY

of the

Forest Management Plan

for

Bah Sama Forest Management Unit

for the period 2022 to 2031

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Approved by:

James Ho Yam Kuan
Chief Operating Officer

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Introduction

This is the public summary of the Forest Management Plan (FMP) written for the Bah Sama FMU. Bah Sama FMU is licenced under Forest Timber Licence (FTL) No. T/3670 issued to Suasana Pertiwi Sdn Bhd. Syarikat Samling Timber Sdn Bhd is the contractor and the FMU Manager for FTL No. T/3670.

The FMP is for the period from 2022 to 2031. There will be a mid-term review in the fifth year to allow any policy changes and developments to be incorporated.

Management Objectives

- to manage the forest resource in an economically viable manner that is ecologically sustainable, socially acceptable and of multiple benefits to the FMU's stakeholders; and in doing so
- comply with, and be certified under the Principles, Criteria and Indicators of the Malaysian Timber Certification Scheme (MTCS) which is endorsed by the Programme for the Endorsement of Forest Certification (PEFC) of well-managed natural forest.

The Resource

The FMU is in the Kapit Division, Sarawak. It lies about 104 km from KM16 off the Bintulu-Sibu Road and runs in a southerly going through the Samarakan Nursery of Sarawak Planted Forest and Lana Camp A Logpond until reaching the Lana Camp B. The Lana Camp B serves as the administrative center for the FMU operations. ([Right click here to access Map 1-FMU location](#)).

The total area is 35,379 hectares of which 14.3% (5,064 ha) is within the Bah Sam Protected Forest and 36.3% (12,838 ha) lies within Bah Sam Protected Forest (1st Extension). The remaining 49.4% (17,477 ha) is State land.

The elevation ranges from 90m to 610m amsl. About 9.4% is classed as Terrain Class I, 31.5% as Terrain Class II, 58.8% as Terrain Class III (20°-35° slopes) and a 0.3% in Terrain Class IV (>35°).

The Kapit/Merit/Bekenu soils is dominant soil which covers approximately 68.5% of the FMU. It is followed by Merit/Bekenu/Kapit (25.9%) which is mostly associated with rolling terrain. The other soil series i.e. Merit/Seduau/Bemang, Merit/Lubai/Buso, Nyalau/Bekenu/Bako, Merit/Tukau//Buso, Kapit/Tutoh/Bekenu, Bijat/Seduau, Bemang and Seduau/Merit appeared to be minor and together covering about 5.6 % of the FMU.

The FMU has been zoned into: **Protection** (MD1 & MDR1 forests, Terrain Class IV, Water Catchment, Buffer zone and Water Intake Point area), 6,718 Ha (18.99 %); **Community**, 4,483 Ha (12.67 %); and **Production**, 24,178 Ha (68.34 %). ([Right click here to access Map 2-Forest zoning](#))

Forest Management System

The production forest is managed on a polycyclic system based on prescribed cutting limits (Selective Felling System) with the next harvest, and all subsequent harvests, provided by the residual stems (potential crop trees) and continued recruitment from natural regeneration. Use of a Reduced Impact Logging system, with extraction by excavator-based log fisher, minimises damage to the residual stand. The FMU is divided into 10 coupes of about 2,418 Ha with, nominally, one coupe harvested each year. The FORMIND growth simulation model used by Samling derives a sustainable annual cut (AAC) at an optimal cutting cycle based on the DBH

cutting limits currently imposed by FDS of 45cm and 50 cm for non-dipterocarps and dipterocarps, respectively.

Harvest system

The use of Reduced Impact Logging (RIL), with break out and extraction by excavator based log fisher, is intended to minimise damage to the residual stand and regeneration both of which will form the next or subsequent harvests. Only trees that have been tagged for harvesting and which are within 60m of the skid trail are felled. Sections of the tree number tags are attached to both ends of the log(s) which are then winched to the skid trail. From there they are skidded by tractor to the landing.

At the landing the logs are measured and the LPI and CB tags are affixed at both ends of every log together with the hammer imprint of the licensee's property mark. The details of logs extracted are recorded on the Daily Production Return form which must be submitted to the One-Stop Compliance Centre and Customer Service Centre of FDS.

The logs are then trucked to the official stumping area - Place of Royalty Measurement (PORM) - where the royalty assessment is undertaken by FDS. As part of the assessment the logs are hammer marked "FD" and tagged. A Removal Pass is then issued by FDS; this serves as a legal permit to transport the logs to the mill or export point. It is the last link in the FMU's chain-of-custody: standing tagged tree to the official log pond.

Forest Resource Assessment

The Forest Resource Assessment (FRA) forms an essential component of forest management planning. All data collected from the SUs shall be entered into the FORMIND Growth and Yield Simulation Model to generate the preliminary Annual Allowable Cut (AAC). The preliminary AAC shall be included in the revised FMP.

Permanent Sample Plot (PSP) are established to record the growth and dynamics of the harvested forest with particular reference to the response of the residual stands to the opening of the forest canopy by harvesting. The re-measurement of the PSPs will be done at two (2) to five (5) years interval. The subsequent growth increment data from these plots will be used to calculate the future AAC.

Allowable Annual Cut

The AAC is species selective, i.e., the AAC computation assumes that only 75% and 60% of the species in species groups 1(emergent) and 2 (canopy) respectively, are commercial. Sampling's downstream is maximising the forest yield by using lesser-known species not previously harvested.

Yield control is primarily by area with one coupe harvested each year with the actual annual production not to exceed the AAC.

Provisions for monitoring forest growth

The establishment of a network of Permanent Sample Plots (PSPs) is in progress. The PSPs are selected from the FRA sampling units so as to represent the variability of the forest condition over the productive forest area. It is planned that re-measurement will, initially, be at two year intervals. The final number of PSPs to be established will depend on the variability (coefficient of variance) of the FRA sampling units.

Environmental Safeguards

The Environmental Impact Assessment (EIA) Report (November 2018) was approved by Natural Resources and Environment Board (NREB) on 1 February 2019.

The EIA report includes the study of environmental impact considerations, the conservation of the natural forest, water quality, waste disposal, use of pesticides and biological agents, mitigation measures for road construction and maintenance, tree felling and log skidding by tractors, environmental quality control and non-organic waste disposal, silvicultural management, forest protection/fire prevention, wildlife protection, protection of scenic landscapes and those with recreational potential, and safety and health of workers.

All rivers and streams that flow year-round must have stream buffer reserve (SBR) established the width of which is determined according to NREB specification.

Quarterly Environmental Monitoring Reports (EMRs) are undertaken by external consultants and have been submitted to the NREB regularly following approval of the EIA. The main focus of the Environmental Monitoring Report (EMR) is on water quality and any damage due to the harvesting operations. The monitoring works for damages due to harvesting operations, as provided for under the Forest Ordinance, will continue for at least a year after the blocks are closed.

Wildlife

"A Master Plan for Wild Life in Sarawak" was approved by the Cabinet as official policy in January 1997. The Master Plan dealt with the immediate issue of stopping over-exploitation by hunting and the provision of more natural habitats in which wildlife could continue to live. The principal ordinance relevant to the protection, management and conservation of wildlife in Sarawak is the Wild Life Protection Ordinance 1990. Additional measures are the responsibility of the FMU holder, in line with DF Circular No. 6/99 dated 30 April 1999 and SFC Circular No. 2/2021 dated 21 April 2021, toolbox talks given to staff and workers are designed to increase the level of awareness of the importance of all aspects of wildlife conservation. Posters are displayed at strategic location as visual aids for awareness programs.

Rainfall

The regional rainfall data (2010-2020) are from Punan Bah (DID Station No. 2333001), Nanga Telawan (DID Station No. 2435001) and Belaga (DID Station No. 2737103/2737003).

The lowest mean monthly rainfall for both regions are in July at 89 mm. The highest annual total rainfall was 5,470 mm recorded at Punan Bah in 2010 whereas the lowest annual total rainfall is 3,202 mm recorded at Belaga in 2019. Overall, the wettest year in the region was in 2010 whereas the driest year was in 2012.

High Conservation Value Areas

The management of High Conservation Value (HCV) areas must comply with relevant Forest Rules and Regulations, and requirements of forest management certification. The Malaysian National Interpretation for the identification of HCV (Proforest 2018) has defined six (6) HCVs as HCV1 (Species Diversity) - Present except for HCV 1.1 (Protected areas), HCV 2 (Landscape-Level Ecosystems and Mosaics) - Present, HCV 3 (Ecosystems and Habitats) - Present, HCV 4 (Ecosystems Services) - Present, HCV 5 (Community Needs) - Present and HCV 6 (Cultural Values) - Present. The outputs of the HCV Assessment Report shall be incorporated into the FMP.

Social Impact Assessment

Fourteen (14) settlements are located within while four (4) are adjacent (but within 3 km radius). There are six (6) Iban community, five (5) Punan community, two (2) each of Sekapan and Badeng communities and one (1) each of Tanjong, Kayan and Beketan communities with an estimated population of just over 7,531. The economic activities range from farming, livestock, fishing and forest-related activities such as hunting and collect jungle produce. Others include employment in the private sector or working as manual labourers on contract or daily paid basis. ([Right click here to access Map 3-Location of settlement](#)).

Social impact assessment concluded that:

- FMU operations have provide positive impact to the local communities in term of road accessibility.
- FMU has provided job opportunity to the local communities and with the road accessibly it increases the awareness among the community regarding the importance of providing education to their children.
- Co-operation and understanding between the FMU, government agencies and local communities is needed to minimise the negative impact and increases the benefits from the establishment of FMU.

Community Liaison and Development

The Community Representative Committee (CRC) and Forest Management Certification Liaison Committee (FMCLC) serve as platforms for achieving a balance of the economic, environmental and social interests. In addition, the committee establishment is also to foster good relationship and facilitate communication between the local communities, the FMU and government agencies. The CRC and FMCLC will provides a forum where discussion can take place between stakeholders to discuss matters of common interests.

The Conflict Resolution Guidelines for SFM are used for resolution of any conflict that might arise between a community and the FMU management that cannot be resolved informally at FMU camp level.

Assistance for the community development project might come from FDS, the FMU holder and any agency (whether government or non-government) able to provide know-how and/or funds that are not otherwise available to the community.

Health, Safety and Environment

The FMU operates under Samling's Health, Safety and Environment Policy and follows the Safe Practice Guidelines. In addition to their work instructions and toolbox talks, the workers are either sent for training courses, or trained within the FMU in the prescribed activities (directional felling, the proper usage of chainsaws and safety aspects, log extraction and log loading) by designated trainers. This is periodically reviewed. There is in-house training of occupational safety and health practices for the workers. A Safety and Health Committee (currently suspended as the number of workers and staff is well below the threshold required for this committee) ensures compliance with the Occupational Safety and Health Act 1994, and the relevant legislative regulations and guidelines that are applicable to the respective workplaces.

Monitoring

Monitoring is required to ensure that the environmental protection measures are implemented and that they are effective and comply with mitigation requirements. The FMU has formulated an Environmental Policy (EP) in compliance with the PEFC-endorsed Malaysian Timber Certification Scheme (MTCS) for well-managed natural forests.

As mentioned under the section **Provisions for monitoring forest growth** a system of permanent sample plots (PSPs) will, after some years, provide data that allow monitoring of the composition and observed changes in the flora. The PSP data will also provide for the monitoring of forest growth and dynamics in terms of growth rates, recruitment, regeneration and general condition of the forest.

Wildlife monitoring is by observation and recording of sightings. This includes line transects, night-spotting and camera trapping. Wildlife rangers were appointed by SFC to assist the government agencies in implementing the Master Plan. The wildlife rangers also act as facilitators to promote awareness on the need for wildlife protection in their respective areas of responsibility.

The Bah Sama FMU has only recently been established. This means that the monitoring of some of the attributes as required by the MC&I is also a new feature in the FMU's management portfolio. In this regard the following summary might usefully be noted:

- Yield of forest products (logs) harvested is monitored through the FMU's production records for royalty assessment held in the camp office.
- Growth rates, regeneration and condition of the forest together with the composition and change of the flora are monitored through the establishment of permanent sample plots (PSPs). The environmental impact of harvesting on flora will also be captured by PSP data and post-harvest assessment.
- Data from the HCV assessment will be used to assist in monitoring fauna in conjunction with *ad hoc* records of observations by FMU staff. As part of their duties they will be responsible for toolbox talks that will develop staff awareness and competence to assist in observing and recording.
- The HCV assessment (HCV5) suggested varying degrees of dependence on some attributes of the FMU. This dependence and any changes will need to be monitored.
- Costs will be monitored by budgetary controls in which productivity and the efficiency of forest management will of necessity also feature.