

## **EXECUTIVE SUMMARY**

### **INTRODUCTION**

Asrama Raya Sdn Bhd (ARSB) is a major timber producer and supplier in Terengganu. In line with the Malaysian Criteria and Indicators for Forest Management Certification [MC&I (Natural Forest)] and the Forest Stewardship Council (FSC) National Forest Stewardship Standard of Malaysia, ARSB practices sustainable forest management (SFM) and legal timber harvesting. The company adheres to both national regulations and international forest certification standards.

In 2015, ARSB was granted a 10,000 ha forest concession within the Petuang Forest Reserve (Hutan Simpan Petuang) under a concession agreement signed with the Terengganu State Government. This agreement is valid for 13 years and is subject to renewal. The forest license was issued by the Terengganu State Forestry Department (TSFD) [Ref: (80) dlm. PHTN 62 (Sulit)/SK.1/Bhg.9c].

Based on the concession agreement signed on 11 May 2015, the HS Petuang Concession includes a partially steep area of 1,087.74 ha, located at elevations between 1,000 and 1,500 meters above sea level (a.s.l.). This area has been designated as a fully protected area, where logging and any form of human activity are strictly prohibited.

Subsequently, during the Forest Harvesting Board (LMHH) meeting held on 8 December 2024, the Government of Terengganu approved a replacement logging area to replace for the exclusion of this protected area. According to the formal letter issued by the Terengganu State Forestry Department (TSFD) [Ref: PHNT. (SULIT)62/SK.1/BHG.25(65)], the approved replacement area includes part of Compartments 122 and 123 in the HS Petuang, and Compartments 108, 109, 112, 113, 114, 115, 123, 124, 125, and 126 in the HS Tembat.

The Forest Management Plan (FMP) is developed by the ARSB Forest Management Unit (FMU) to outline planned forest activities, harvesting procedures, protection of environmental and social values, research and development, and budget planning. As part of the commitment to sustainability and continuous improvement, the FMP is reviewed every five years (mid-term review) and fully revised every ten years.

ARSB practices Reduced Impact Logging (RIL) and Selective Management System (SMS). Forest workers are trained and instructed not to engage in illegal logging, hunting, or NTFP collection. Signage has been placed to prohibit hunting, and ARSB has implemented internal controls to safeguard the forest ecosystem.

ARSB's management responsibility inclusive of partnerships and subcontractors for the concession. ARSB has sole management rights to the forest concession and uses subcontractors for logging, construction of infrastructure or other activities. ARSB management plans are established based on the sustainable forest management and the activity to be carry out in the ARSB HS Petuang-Tembat Concession for the 13-year concession license period.

In addition, ARSB have appointed Jalur Bangsa Sdn Bhd (JBSB) as logging contractor. ARSB transferred all the works regarding forest harvesting and management in 10,000 ha of the HS Petuang concession area to logging contractor. ARSB only responsible for supervising all the

works conducted by logging contractor. An agreement letter has been made regarding this issue and signed by ARSB and JBSB.

The main goal of ARSB forest management plan is to develop a sustainable management of forest resources to provide economic, environmental and social benefits to ARSB's workers and local community.

ARSB forest management short term objectives are:

- 1) To protect and maintain the ecology of the forest area, includes biodiversity and wildlife habitat through Reduced Impact Logging (RIL) techniques.
- 2) To commit to comply with federal, state, or local laws and regulations, Malaysian Timber Certification scheme (MTCS) - MC & I, and the FSC National Forest Stewardship Standard of Malaysia principle and criteria.
- 3) To balance the economic benefits of forest management with the environmental safeguards.
- 4) To broaden the practice of sustainable forest management through RIL technique using Logfisher system.
- 5) To conserve and protect the steep slopes, watercourses and protected area.
- 6) To protect water quality of the river and watercourses.
- 7) To protect environmental values, High Conservation Values (HCV) and social values within ARSB HS Petuang concession.
- 8) To protect rare, threatened and endangered (RTE) species and their habitats.
- 9) To protect the ARSB HS Petuang concession from encroachment, illegal logging and hunting.
- 10) To provide local people and workers equal job opportunities.
- 11) To provide, strengthen and diversify the local economy.
- 12) To recognize and uphold the rights, customs and culture of local community.
- 13) To improve the practice of sustainable forest management by resource professionals, and contractors through appropriate training and research.

ARSB forest management long term objectives are:

- 1) To maintain the identified environmental, social and cultural values in existence long-term.
- 2) To maintain a long-term rate of return by maintaining the production of forest products.
- 3) To broaden the implementation of sustainable forestry ensuring long-term harvest levels based on the use of the best scientific information available.
- 4) To ensure long-term forest productivity and conservation of forest resources through reforestation, gap planting and other measures.
- 5) To economically manage the forest on a sustained yield basis and continually maintain ecological and social benefits.
- 6) To ensure the sustainability and growth of the forest resource in the concession in perpetuity.

### **ARSB FOREST MANAGEMENT ZONES / AREA**

The ARSB HS Petuang-Tembat concession covers approximately 10,000 ha within Hulu Terengganu. ARSB HS Petuang concession consists of 37 compartments with total area of 8912.26 ha (Appendix 1). The area is categorized into several management zones:

- Productive area: 4234 ha
- Non-productive area: 2363 ha
- Unharvested area: 836.34 ha
- Rocky high area: 1265.92 ha
- River Petuang (buffer zone): 213 ha

The ARSB Tembat–Petuang Replacement Area comprises 12 compartments with a total area of 1,087.74 ha, consisting of 101.40 ha of harvested (licensed) area, 222.00 ha of currently harvesting (licensed) area and 764.34 ha of unharvested area (Appendix 2).

ARSB implements RIL techniques and is monitored by the West Terengganu District Forest Office. The area is managed according to guidelines by the Forestry Department of Peninsular Malaysia (FDPM) and TSFD.

### **SOCIO-ECONOMIC**

The ARSB HS Petuang concession is surrounded by permanent reserved forests: Hulu Nerus, Hulu Besut, Gunung Tebu, and Hulu Setiu. No local communities or Indigenous Peoples reside within the ARSB HS Petuang Concession or HS Tembat-Petuang Replacement Area.

The only nearby community is Kg. Payong, located about 12.8 km from the ARSB HS Petuang Concession concession boundary. It comprises 133 households and about 629 residents, all of whom are Malay and Muslim.

The economy of Kg. Payong is based on rubber, oil palm, and small-scale agriculture. Some villagers work in town or in non-agricultural sectors. No forest resources from the ARSB concession are used by the local community.

ARSB built an access road through small plots of private land owned by Kg. Payong residents with formal agreements and rental compensation (renewable every five years). The road benefits the villagers by improving access to their agricultural land.

ARSB also offers job opportunities to local people and conducts regular engagement through the JPKK (Village Development and Security Committee). CSR programs include awareness talks, donations, training, and education initiatives.

### **FOREST STRATA OF ARSB HS TEMBAT-PETUANG CONCESSION**

ARSB HS Petuang concession is classified into two types using NFI and FDPM data:

- Lowland and hill dipterocarp forest (B)
- Upper dipterocarp forest (M)

ARSB HS Tembat-Petuang Replacement Area is classified into lowland dipterocarp forest and hill dipterocarp forest (B).

The forest strata vary in tree density and volume:

- B: ~88.62 trees/ha, 165.08 m<sup>3</sup>/ha
- M: ~59.25 trees/ha, 98.57 m<sup>3</sup>/ha

### **PRE-HARVESTING OPERATIONS**

Pre-felling (Pre-F) inventory is conducted to measure tree diameter and mark trees for felling. ARSB received a Pre-F exemption from TSFD in January 2018. TSFD has fixed cutting limits at 60 cm for dipterocarps, 50 cm for non-dipterocarps, and 70 cm for *Chengal*.

## **ANNUAL ALLOWABLE CUT AND SPECIES SELECTION**

The Annual Allowable Cut (AAC) is capped at 650 ha/year based on sustainable yield calculation approved by TSFD. ARSB follows FDPMP's authorized tree species list and does not harvest mother trees, RTE species, or protected species.

## **FOREST HARVESTING / DURING HARVESTING OPERATIONS**

ARSB practices selective logging using the Log fishing system, a long cable timber harvester suitable for steep terrain. This system minimizes soil compaction and stream siltation. While costlier (38% higher than conventional methods), Log fishing system reduces long-term environmental impact.

## **SILVICULTURE MANAGEMENT**

ARSB adopts a selection harvesting system, allowing natural regeneration and protection of mother trees. Silvicultural objectives include enhancing productivity, improving species composition, and ensuring forest regeneration.

## **GAP PLANTING / POST HARVESTING OPERATION**

Gap planting is carried out in open areas >0.5 ha, especially along log fishing trails and log yards. Quality seedlings (45–60 cm tall) of dipterocarps and valuable non-dipterocarps are planted based on post-felling assessments.

## **PERMANENT SAMPLE PLOT (PSP)**

ARSB have established PSPs at Compartments 42 and 63 of ARSB HS Petuang Concession. Another two PSP also have been set up in compartment 108 and 109 of ARSB HS Tembat-Petuang Replacement Area. Data is collected every 3 years to assess tree diameter, height, species composition, and calculate the Mean Annual Increment (MAI). More PSPs will be set up in the future.

## **IDENTIFICATION OF RARE, THREATENED AND ENDANGERED (RTE) SPECIES**

Camera trapping was conducted to detect the presence of wildlife or RTE species in the forest and potential habitat areas such as river, riparian, lowlands and uplands. Opportunistic sighting survey based on direct observation and footprints was also conducted to identify the presence of wildlife or RTE species in the forest. The Red list of Mammals for Peninsular Malaysia Version 2.0. and IUCN Red List Website was referred to determine the conservation status of the rare and endangered species. RTE plant also surveyed through quadrat sampling and PSP. ARSB also consulted experts from TSFD for identification. ARSB also consult wildlife expert and researchers for the confirmation of identification of the wildlife or RTE species.

## **PROTECTION OF WILDLIFE, RTE ANIMAL AND PLANT SPECIES**

- Control access to ARSB concession by building gate at the concession entrance to prevent poachers and outsiders to enter ARSB HS Petuang concession.
- ‘No hunting’ signage was established at the main entrance and operational areas to provide warning against illegal activities and hunting.
- ARSB set up camera trap in several areas of ARSB HS Petuang concession to detect and identify wildlife, temporal concentrations of species in the forest for long term periods.
- ARSB identify salt lick areas and protect the salt lick areas from human activities.
- ARSB conduct opportunistic sighting survey through direct observation, footprints, nests, etc.
- ARSB conduct periodic monitoring of wildlife.
- ARSB also engaged with local community from Kg. Petuang for helping in monitoring ARSB HS Petuang concession from encroachment and hunting.
- ARSB collaborate with wildlife biologists for wildlife management.

## **ENVIRONMENTAL IMPACT ASSESSMENT**

ARSB is not subject to mandatory EIA as harvesting is compartment-based and <500 ha/year. In order to fulfill the requirement of FSC and MC&I in managing ARSB HS Petuang concession, ARSB had carried out a simple Environmental Impact Assessment (EIA). ARSB also has initiated biodiversity and environmental policy so that all the workers aware to protect the environment and biodiversity of ARSB concession.

## **POTENTIAL ENVIRONMENTAL IMPACT AND MITIGATION MEASURES**

- Erosion and sedimentation controlled via RIL and buffer zones.
- Encroachment and poaching minimized with gate access and local surveillance.
- Biodiversity preserved via selective logging and no clear-cutting.
- Wildlife shelter and food sources maintained through protection of key species and habitats.

## **SOCIAL IMPACTS AND MITIGATION MEASURES**

- Jobs offered to Kg. Payong residents.
- Land rental agreements honored and renewed every 5 years.
- Local suppliers and contractors prioritized.
- Road access monitored and maintained.
- Continuous community engagement and CSR programs provided.

## **HIGH CONSERVATION VALUE (HCV)**

- HCV 1: Species Diversity- RTE animals were observed based on camera trap and opportunistic sighting survey but no critical habitat identified.
- HCV 2: landscape-level ecosystems and mosaics, HCV 3: ecosystems and habitats, HCV 4: ecosystem services, HCV 5: community needs and HCV 6: cultural values are not applicable or not present in concession. ARSB has formal procedures for HCV monitoring, including mapping, camera trapping, field surveys, and long-term ecological monitoring using RIL to minimize impact.

**COST AND BUDGET**

For 2026, ARSB allocated:

- RM2,038,500 for forest management, research, CSR, stakeholder engagement, training, and certification
  - RM7,500,000 for forest operational expenses including premium, royalty, harvesting, roadwork, and logistics.