Public Summary of AFISB Forest Management Plan

(2024 – 2034)

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Chapter 1: Introduction

The Forest Management Plan (FMP) 1st January 2024 – 31st December 2033 sets out Acacia Forest Industries Sdn. Bhd. (AFI) strategic direction to manage its forest resources in an environmentally sound, socially responsible, and economically viable manner. It is aligned with the Malaysian Criteria and Indicators for Sustainable Forest Management (MC&I SFM) under the Malaysian Timber Certification Scheme (MTCS). The FMP will be updated through adaptive management, incorporating monitoring results, stakeholder engagement, and new scientific or technical information. It also provides transparency by making non-confidential summaries available to affected stakeholders and guiding staff in day-to-day decisions.

AFI is a joint venture between Hijauan Bengkoka Plantations Sdn Bhd (70%) and the Sabah Forestry Development Authority (30%). The partnership, formalised through a Joint Venture Agreement (JVA), grants AFI the mandate to plant and replant selected timber species within a gazetted 25,000-hectare concession on the Bengkoka Peninsula, Pitas District, until 2060. Historically, the area has undergone multiple phases of management, evolving from logging concessions in the late 20th century to the current structure under AFI in 2004. The company's focus is on establishing a productive plantation resource base that can support sustainable timber supply while balancing ecological and social obligations.

Chapter 2: Sustainable Forest Management

AFI operates under the principles of Sustainable Forest Management (SFM), with certification granted under MC&I SFM by MTCS. Nine principles underpin this certification, including compliance with Malaysian laws and treaties, respect for indigenous rights, long-term land tenure security, community and worker welfare, biodiversity conservation, and monitoring of forest conditions. A precautionary approach is applied to all High Conservation Value (HCV) areas. These commitments extend to all staff, contractors, and visitors, ensuring that sustainability standards are consistently upheld across operations.

The company also complies with the Sabah Forest Policy (2018) and the National Forest Policy (1978, revised 1993), which guide forest management through conservation, biodiversity protection, sustainable production of timber and non-timber products, socio-economic development, and research. Compliance with the Sabah Timber Legality Assurance System (TLAS) is verified annually by Global Forestry Services (GFS). TLAS covers four principles: (1) harvesting rights, including approved licenses, EIAs, and forest inventories; (2) operations, ensuring safety, license conditions, and timber transport control; (3) statutory charges, including payment of royalties and duties; and (4) other user rights, ensuring community benefits and native rights. AFI recognises that sustainability is not static, but a journey that evolves with science, markets, and societal expectations.

Chapter 3: Policy Statement and Objectives

AFI's vision is to be the recognised leader in responsible, sustainable tropical plantation forestry in Southeast Asia, while its mission emphasises the integration of social, environmental, and economic values into forestry operations. The company contributes to employment, infrastructure development, foreign exchange earnings, and knowledge transfer in Sabah's remote areas. Its overarching objective is to enhance the value of forestry assets through advanced silvicultural practices, genetic improvement, and the development of its workforce in partnership with surrounding communities.

The management goals are wide-ranging and practical. They include legal compliance, safe working conditions, and implementation of MC&I SFM principles. Specific operational targets are to develop commercial *Eucalyptus* and *Acacia* plantations (targeting 14,707 ha by 2034), harvest mature timber with minimal environmental impact, and protect soil, water, biodiversity, and HCV areas. Conservation measures extend to protecting habitats for rare, threatened, and endangered (RTE) species and preventing illegal encroachment. Cost efficiency, product diversification, and minimisation of chemicals in forestry are also emphasised. Community support is addressed through initiatives that respect traditional knowledge and promote well-being. Importantly, AFI has committed to ensuring its tree-breeding programme remains free from genetically modified organisms (GMOs). The FMP

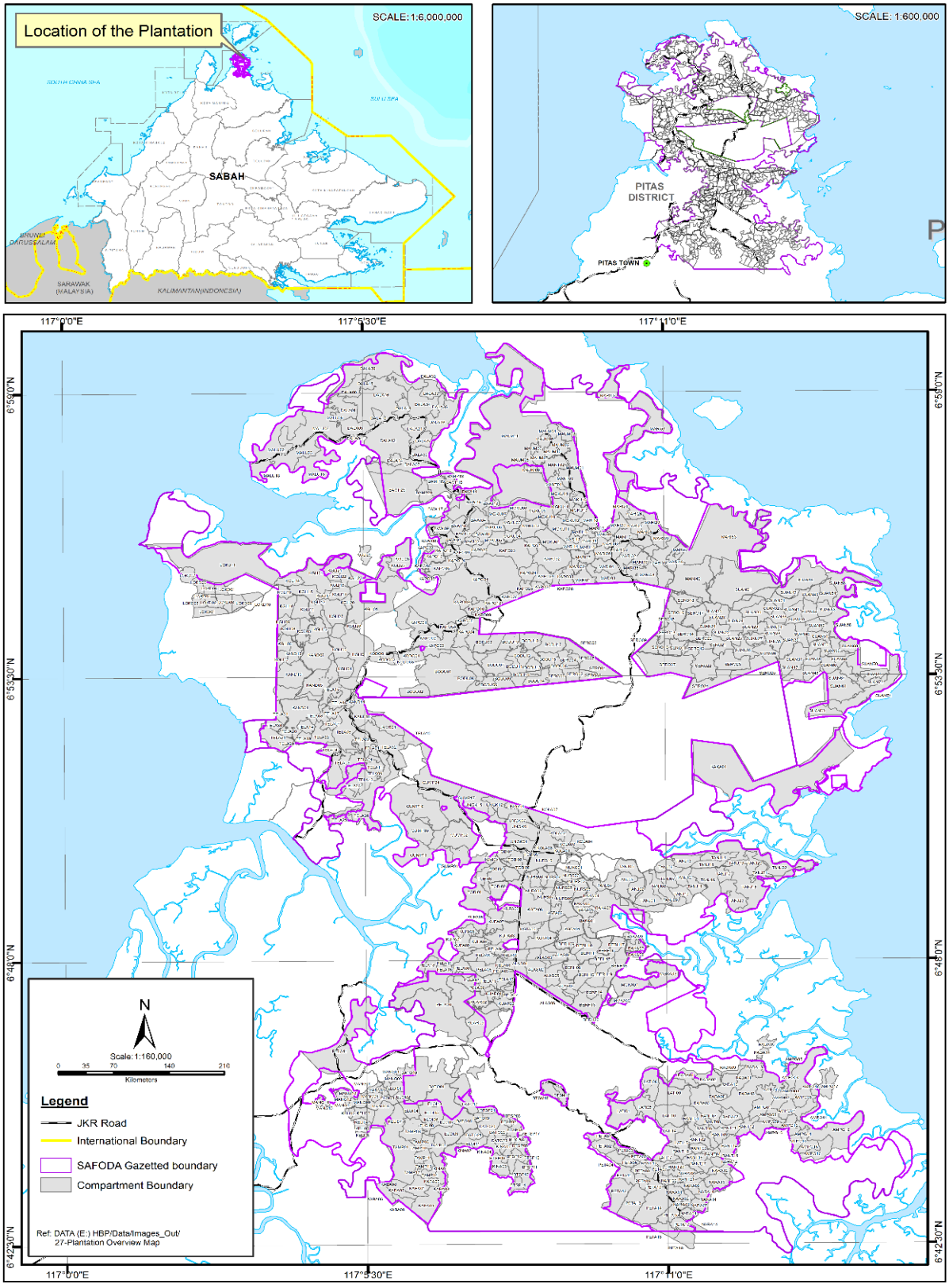
spans from 1st January 2024 – 31st December 2033, with a mid-term review planned for 2029 to refine strategies based on monitoring and adaptive management outcomes.

Chapter 4: General Information

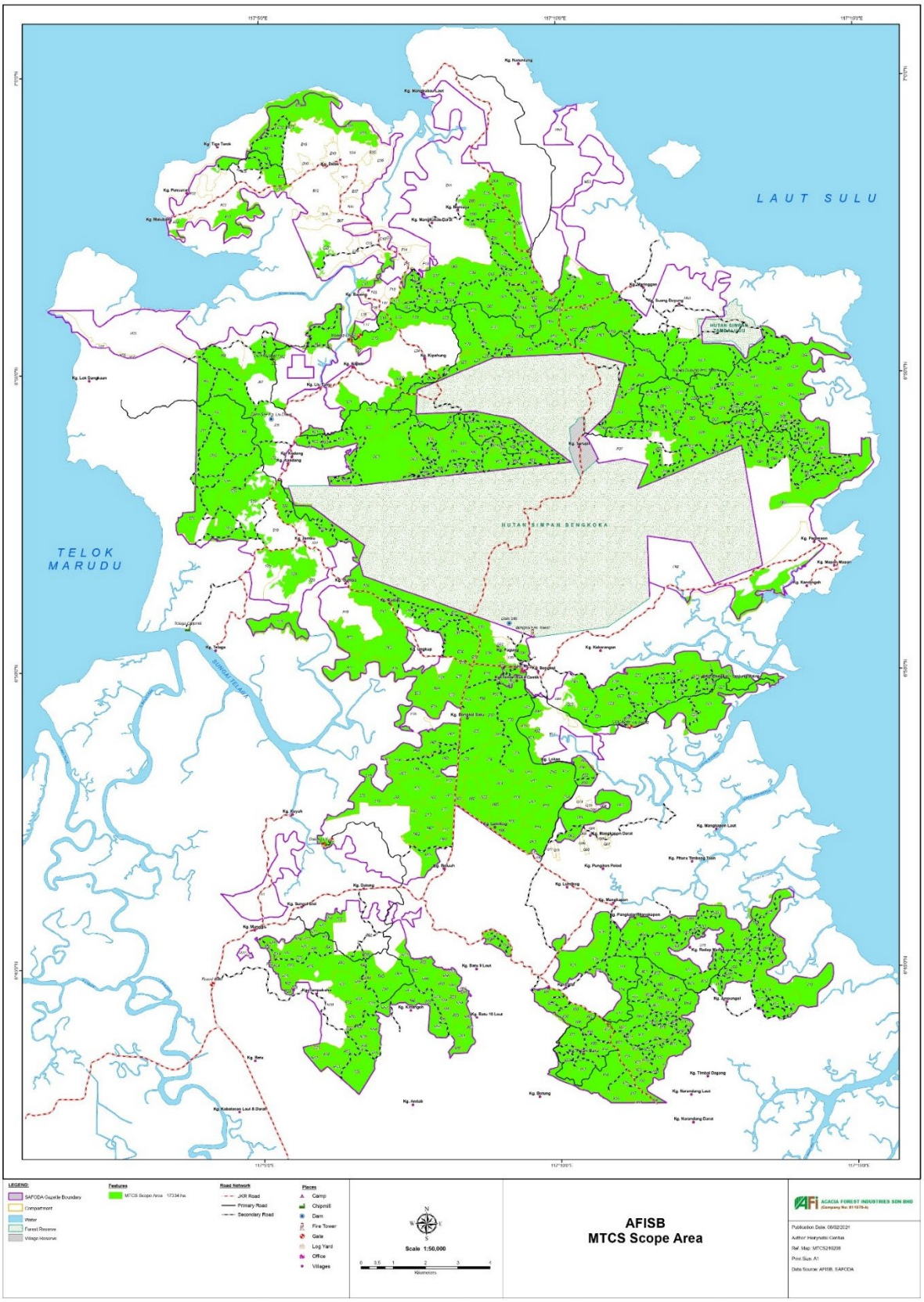
The AFI concession area covers approximately 25,000 hectares of SAFODA land gazetted in 1983, located on the Bengkoka Peninsula in the Pitas District of northern Sabah. It stretches about 32 km north–south and 25 km east–west, defined between latitudes 6°59’47”N to 6°42’23”N and longitudes 117°2’8”E to 117°15’18”E. The climate is equatorial, with high humidity and rainfall averaging 2,621 mm annually. Temperatures average 28°C year-round, with peak rainfall in December–January during the Northeast Monsoon.

Geologically, soils belong mainly to the Brantian (45%) and Maliau (34%) associations, both characterised by poor fertility due to leaching. Soils are classed into Groups 2 and 3 under FAO classification: Group 2 has minor drainage limitations, while Group 3 is divided into terraces (steep, leached, low fertility soils) and floodplains (deep, fine-textured alluvial soils suitable for crops with careful management). Topography is mostly flat to gently undulating, with only 1% above 25° slopes. Historically, the Bengkoka Peninsula supported natural forests, but extensive logging (1950s–80s) transformed the landscape into a mosaic of mangroves, secondary forests, plantations, mixed agriculture, and shifting cultivation fallows. Infrastructure includes 100 km of public roads, 126 km of gravelled all-weather roads, 91 km of un-gravelled roads, and 100 km of spur roads, mostly remnants from earlier logging.

AFI Concession Area



MTCS Certified Area



Chapter 5: Forest Zoning

To balance commercial and conservation objectives, AFI has established zoning within its licensed area. The production zone encompasses plantation areas designated for acacia and eucalyptus, while the conservation zone covers ecologically sensitive sites such as mangroves, swamp forests, steep slopes (>25°), riparian buffers, and the Wasoi Forest. Conservation zones serve multiple purposes: biodiversity protection, soil and water conservation, and cultural values such as indigenous use.

AFI PRINCIPLE ZONES

Principle Zone	Area (ha)
Conservation	1,750
Infrastructure and Other open areas	452
Production	15,132
TOTAL	**17, 334**

Zoning ensures clarity in land use allocation. For example, riparian buffer strips are retained along all waterways in compliance with EIA prescriptions, with widths proportional to stream size. Steep terrain, which comprises less than 1% of the concession, is excluded from planting or harvesting due to erosion risks. The Wasoi Forest, a remnant natural forest patch, is set aside for its biodiversity and cultural significance. Together, these zones help AFI maintain a landscape-level approach, securing both productivity and ecological integrity.

Chapter 6: Harvesting

AFI's harvesting system has been progressively mechanised following a 2016 independent review recommending safer, more efficient practices. Harvesting follows a decadal plan (2024 – 2034), with annual coupes ranging from about 595 ha to 1,273 ha. The harvesting focus shifts over time from *Acacia mangium* (which is being phased out due to disease susceptibility) to *Eucalyptus pellita*, considered more resilient and productive.

The Annual Allowable Cut (AAC) is calculated based on expected growth rates and plantation areas: Acacia contributes between 10,000–23,000 m³ per year, while *Eucalyptus* ranges from 58,000–195,000 m³ annually. Harvesting is subject to Environmental Impact Assessment (EIA) requirements, including riparian buffers, prohibition of logging on slopes >25°, soil erosion control, and fire prevention. Transport relies on the established gravel road network, while logs are tracked under Sabah's Timber Legality Assurance System (TLAS). These measures ensure that harvesting remains sustainable, legal, and environmentally responsible.

HARVESTING PLAN

Year	Area (Ha)	Species
July 2024 – June 2025	595	*Acacia mangium & Eucalyptus pellita*
July 2025 – June 2026	846	*Acacia mangium & Eucalyptus pellita*
July 2026 – June 2027	1,058	*Acacia mangium & Eucalyptus pellita*
July 2027 – June 2028	1,058	*Acacia mangium & Eucalyptus pellita*
July 2028 – June 2029	1,058	*Acacia mangium & Eucalyptus pellita*
July 2029 – June 2030	1,096	*Acacia mangium & Eucalyptus pellita*
July 2030 – June 2031	941	*Eucalyptus pellita*
July 2031 – June 2032	1,027	*Eucalyptus pellita*
July 2032 – June 2033	1,027	*Eucalyptus pellita*
July 2033 – June 2034	1,273	*Eucalyptus pellita*

Logs at stumping area (harvesting site) loaded into truck and transported to logyard

Chapter 7: Plantation Development and Management

AFI's plantation management aims to produce high-quality pruned sawlogs within 10–12 years and chip logs on a shorter 5-year cycle. Between July 2024 – June 2034, annual planting targets range from 405 ha to 1,798 ha, with a cumulative goal of establishing approximately 12,700 hectares of *Eucalyptus* and *Acacia* plantations. The species mix favours *Eucalyptus pellita* due to its disease tolerance, with *Acacia* gradually reduced.

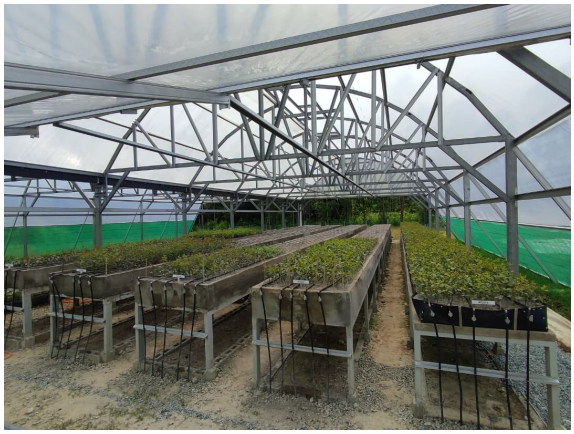
YEARLY PLANTING PROGRAM

Year	Area (Ha)
July 2024 – June 2025	405
July 2026 – June 2027	846
July 2027 – June 2028	1761
July 2027 – June 2028	1761
July 2028 – June 2029	1761
July 2029 – June 2030	1798
July 2030 – June 2031	1644
July 2031 – June 2032	1729
July 2032 – June 2033	1729
July 2033 – June 2034	1273

Planting, slashing and weeding works

Nursery operations are central to this program. AFI maintains a modern nursery at Bongkol, reconstructed in 2017, which produces clonal and seedling stock under strict SOPs. Plantation management includes site preparation, planting, fertilisation, weed control, pruning, and thinning. Pest and disease control follows Integrated Pest Management (IPM), minimising chemical inputs and relying on Borneo Forestry Cooperative (BFC) research. Fire prevention divides the concession into eight fire zones, monitored daily by Fire Danger Rating (FDR) systems, with suppression teams on standby during high-risk periods.

Nursery operation at Bongkol



Chapter 8: Plantation Research and Development (R&D)

R&D is a cornerstone of AFI's strategy to improve productivity, resilience, and sustainability. Research priorities include genetic improvement, silvicultural techniques, pest and disease management, and cost optimisation. Genetic work focuses on *Eucalyptus pellita* and *Acacia mangium*, with ongoing trials of hybrids and second-generation material for disease resistance. Seed sources (Appendix P) are derived from carefully selected plus-trees and progeny trials, with elite clones propagated through tissue culture and mass production.

Collaboration strengthens AFI's R&D capacity. The company is a member of the Borneo Forestry Cooperative, which provides advanced tree-breeding expertise. Partnerships with Gerak Saga Sdn Bhd and Universiti Malaysia Sabah (UMS) support silvicultural and pest management trials. R&D projects are prioritised based on potential impact, time to value, and cost-effectiveness. For instance, breeding for disease resistance ranks high due to the vulnerability of Acacia to Ceratocystis wilt. Outcomes are fed back into plantation operations, ensuring continuous improvement of forest productivity and health.

Chapter 9: Environment, Wildlife, and High Conservation Value (HCV) Forests

AFI's environmental management is shaped by EIAs conducted in 2007 (harvesting) and 2009 (replanting). Mitigation measures include riparian buffers, erosion control, pollution management, and fire hazard reduction. Conservation zones encompass Wasoi Forest, mangroves, swamps, and steep slopes. High Conservation Value (HCV) assessments, updated in line with the Malaysian National Interpretation (2018), guide the identification and protection of ecologically significant sites.

Wildlife surveys have recorded 32 species within AFI's concession, including proboscis monkeys, clouded leopards, and sun bears. Appendix L provides detailed management and monitoring strategies for RTE species, such as camera trapping, patrols, and habitat protection. AFI collaborates with external researchers to track biodiversity and ensure compliance with certification requirements. Community awareness programs complement

these efforts by discouraging hunting and encroachment. By integrating HCV management into plantation planning, AFI aims to safeguard biodiversity alongside timber production.

Riparian reserves and installation of camera trap

Chapter 10: Risk Management

AFI applies a structured risk management framework aligned with Safety & Health regulation, integrating environmental, social, financial, and operational risks. The Event Management System (EVMS) functions as a live risk register, reviewed quarterly by management. Identified risks include fire outbreaks, pest and disease epidemics, illegal encroachment, climate change impacts, financial instability, and social disputes.

Mitigation strategies are multi-tiered. Fire risks are reduced through zoning and FDR monitoring, while pest risks are managed through IPM and genetic improvement. Financial risks are tracked alongside timber revenue forecasts. Social risks, particularly land tenure disputes, are addressed through active stakeholder engagement. Regular training ensures staff and contractors are prepared for emergency responses. This structured approach enables AFI to minimise potential losses and maintain operational stability.

Chapter 11: Stakeholders

AFI engages a wide range of stakeholders including local communities, government agencies, contractors, NGOs, and certification bodies. Engagement occurs through workshops, and

Corporate Social Responsibility (CSR) programs. AFI addresses these through dialogue, government mediation, and the SUKA profit-sharing scheme, which enables community participation in plantation benefits.

CSR initiatives support health, education, and livelihood programs in nearby villages. For example, schools and clinics benefit from AFI's contributions, while smallholder farmers receive training and support for agroforestry.

Stakeholders Consultation: Townhall, community and school engagement

Chapter 12: People and Labour Management

AFI complies with Malaysian labour legislation and International Labour Organisation (ILO) conventions. Employment opportunities are prioritised for local residents, with fair wages, equal opportunity, and safe working conditions as guiding principles. A Safety and Health Officer (SAHO) oversees workplace safety, supported by regular training, provision of PPE, and compliance monitoring.

Contractors are required to align with AFI's labour and safety standards, including MC&I requirements. Grievance mechanisms allow workers to raise concerns, while gender equality is promoted in hiring and career development. Training programs cover silviculture, HCV protection, and risk management, equipping workers with both technical and safety knowledge. AFI's approach is designed not only to ensure compliance but also to create a motivated and capable workforce.

Chapter 13: Financial Management and Resources

Financial sustainability underpins AFI's ability to manage its concession long-term. Timber revenue provides the main income stream, supplemented by reinvestment into silviculture, infrastructure, and R&D. Regular audits and reporting are conducted to meet both regulatory and certification requirements.

Financial risks are integrated into the EVMS risk framework. Cost optimisation is pursued through efficient harvesting systems, improved logistics, and research-driven productivity gains. By diversifying plantation species and products, AFI also reduces market risk. Financial management is closely tied to sustainability objectives, ensuring that reinvestment supports both profitability and environmental commitments.

Chapter 14: Implementation and Monitoring

AFI employs a structured and comprehensive monitoring framework to strengthen its environmental, social, and economic governance. A dedicated checklist ensures all elements of the Forest Management Plan (FMP) are reviewed and updated in accordance with scheduled timelines. Key objectives include sustainable timber resource management, compliance with environmental laws, risk mitigation, and early detection of operational impacts. The monitoring program spans areas such as log production, market readiness, seedling quality, stand growth, age-class distribution, and silvicultural operations. Forest inventory strategies—such as vigour surveys, permanent sample plots, and pre-harvest

inventories—are systematically implemented to maintain data accuracy for resource planning and valuation.

Beyond forest operations, AFI's monitoring extends to social, financial, and environmental dimensions. These include waste and pesticide management, fire prevention, community engagement, health and safety, grievance resolution, and protection of High Conservation Value (HCV) areas. Each operational area is guided by Standard Operating Procedures (SOPs) and supported by regular audits, training, and real-time data collection systems like PeopleTray and GIS databases. Special focus is placed on high-risk operations such as harvesting and fire management, with strict controls and community awareness programs. This holistic approach ensures AFI maintains high standards of compliance, transparency, and continuous improvement across all facets of plantation management.