

**Malaysian Criteria, Indicators, Activities
and Standards of Performance
for Forest Management Certification
(MC&I)**



MALAYSIAN TIMBER CERTIFICATION COUNCIL

4 October 2001

**MALAYSIAN CRITERIA, INDICATORS,
ACTIVITIES AND STANDARDS OF PERFORMANCE
FOR FOREST MANAGEMENT CERTIFICATION (MC&I)**

1. Introduction

The *Malaysian Criteria, Indicators, Activities and Standards of Performance for Forest Management Certification (MC&I)* is the standard that will be used for assessing forest management practices in the Permanent Forest Estate (PFE) at forest management unit (FMU) level for the purpose of certification.

2. Background

2.1 As a cooperation programme under the Malaysia-The Netherlands Joint Working Group on Forestry, a pilot study on timber certification was carried out, starting in mid-1996. Under the pilot study, three FMUs in Peninsular Malaysia were assessed by an independent assessor to the requirements of a standard entitled *Malaysian Criteria, Indicators, Activities and Management Specifications for Forest Management Certification, Peninsular Malaysia* and the audited timber products entered the Dutch market with 'Declarations' issued by the Keurhout Foundation.

2.2 As a follow-up to the pilot study, several discussions were held in 1998 and 1999 between experts from The Netherlands and Malaysia to take into account the following developments and inputs:

- (i) the adoption of the *Dutch Minimum Requirements* in The Netherlands;
- (ii) the adoption of the 1998 ITTO *Criteria and Indicators for Sustainable Management of Natural Tropical Forests* in Malaysia; and
- (iii) the results of regional and national-level consultations among stakeholders in 1999 to formulate a national standard for forest management certification.

2.3 The output from these discussions was a document entitled *Malaysian Criteria, Indicators, Activities and Standards of Performance (MC&I) for Forest Management Certification (Forest Management Unit Level), Peninsular Malaysia (Malaysia-The Netherlands Ad-Hoc Working Group)* dated 23 December 1999.

2.4 The *MC&I* is based on the above-mentioned document, and incorporates the corresponding Standards of Performance for Peninsular Malaysia, Sabah and Sarawak agreed during the national-level consultation in October 1999.

3. Terminology Used in the MC&I

3.1 Definitions

The following are definitions of some important terms as they are used in the *MC&I*:

Activity: An action to be taken for compiling quantitative or qualitative information required to achieve the desired result of the *Indicator*.

Criterion: An aspect that is considered important by which sustainable forest management may be assessed. A criterion is accompanied by a set of related *Indicators*.

Forest Management Unit (FMU): A clearly defined forest area, managed to a set of explicit objectives and according to a long-term management plan.

Forest Type: A naturally occurring community of trees and associated plant species of definite botanical composition with uniform physiognomy (structure) and growing in uniform ecological conditions whose species composition remains relatively stable over time. These are most often scientifically described at the 'association' level.

Indicator: A quantitative, qualitative or descriptive attribute that, when periodically measured or monitored, indicates the direction of change.

Local communities: Rural-based peoples who rely on the forest ecosystems and having certain rules, cultural norms and expectations that can directly affect decision-making at the household level.

Permanent Forest Estate (PFE): Land, whether public or private, secured by law and kept under permanent forest cover. This includes land for the production of timber and other forest products, for the protection of soil and water, and for the conservation of biological diversity, as well as land intended to fulfil a combination of these functions.

Regulated forest: Forest area harvested in the production forest of the PFE and has the forest structure, based on forest inventory, to sustain timber production.

Standard of Performance: A requirement or a set of requirements used as benchmarks to measure the attainment of a particular *Indicator*.

3.2 Terms

The following classifications have been used in the *MC&I*:

- (i) **Forest types** have been identified as Dry Inland Forest, Peat Swamp Forest and Mangrove Forest.
- (ii) Main **forest products** are natural forest wood, plantation forest wood and rattan.

4. Format of *MC&I*

The *MC&I* is formatted into 3 columns, with the first column containing the Criteria and Indicators from the ITTO *Criteria and Indicators* which are considered to be relevant for certification purposes in the Malaysian context. The second and third columns show the Activities and Standards of Performance respectively. In the case of the Standards of Performance, the specific laws, policies, regulations, procedures, processes, plans, guidelines, reports and threshold values for FMUs in Peninsular Malaysia, Sabah and Sarawak are indicated in the third column.

5. Review of *MC&I*

This *MC&I* will be reviewed and updated periodically, based on feedback and experience gained through its application in the field.

MALAYSIAN TIMBER CERTIFICATION COUNCIL
4 October 2001

CRITERIA / INDICATORS	ACTIVITIES	STANDARDS OF PERFORMANCE																																								
Criterion 1: Enabling Conditions for Sustainable Forest Management																																										
<p>1.1 Existence of a framework of laws, policies, and regulations to govern:</p> <p>(a) national objectives for forest including production, conservation and protection,</p> <p>(b) the establishment and security of the permanent forest estate,</p> <p>(c) land tenure and property rights relating to forests,</p> <p>(d) the control of forest management,</p> <p>(e) the control of forest harvesting,</p> <p>(f) the control of encroachment,</p> <p>(g) the health and safety of forest workers,</p> <p>(h) the rights of forest workers, and</p> <p>(i) the participation of local communities.</p>	<p>(i) Record in Table 1.1 for this forest management unit the presence (+) or absence (-) of laws, policies and regulations which govern each of the elements (a) to (i).</p> <p>(ii) Describe the relevant sections of these laws, policies and regulations; name the department/authority responsible for each, and the date at which it came into force. If different instruments apply to different categories of land (e.g. private or community forest), explain the differences.</p> <p>(iii) Provide text of these laws, policies and regulations, and their implementation.</p> <p>(iv) Indicate whether there has been significant change since the most recent assessment (give date). If so, elaborate on the changes.</p> <p>(v) Indicate any significant gaps in the coverage of laws, policies and regulations as shown in Table 1.1 and how these gaps will be filled.</p> <p style="text-align: center;"><u>Table 1.1: Existence of Laws, Policies and Regulations</u></p> <table border="1" data-bbox="478 670 1304 987"> <thead> <tr> <th data-bbox="478 670 1035 703">Framework governing:</th> <th data-bbox="1035 670 1094 703">Laws</th> <th data-bbox="1094 670 1184 703">Policies</th> <th data-bbox="1184 670 1304 703">Regulations</th> </tr> </thead> <tbody> <tr> <td data-bbox="478 703 1035 760">a. 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		<p>Sarawak</p> <ul style="list-style-type: none"> a) national objectives for forest including production, conservation and protection <ul style="list-style-type: none"> • Natural Resources and Environment Ordinance (Amendment), 1997 • State Forest Policy, 1954 • Forests Ordinance, 1958 • Forest Rules, 1962 • National Parks and Nature Reserves Ordinance, 1998 • National Parks and Nature Reserves Regulations, 1999 • Wildlife Protection Ordinance, 1998 • Wildlife Protection Rules, 1998 b) the establishment and security of the permanent forest estate <ul style="list-style-type: none"> • State Forest Policy, 1954 • Forests Ordinance, 1958 c) land tenure and property rights relating to forests <ul style="list-style-type: none"> • Forests Ordinance, 1958 • National Parks and Nature Reserves Ordinance, 1998 • Wildlife Protection Ordinance, 1998 • Land Code 1958 d) the control of forest management <ul style="list-style-type: none"> • Natural Resources and Environment Ordinance (Amendment), 1997 • State Forest Policy, 1954 • Forests Ordinance, 1958 • Forest Rules, 1962 • Forest Timber Licences e) the control of forest harvesting <ul style="list-style-type: none"> • Natural Resources and Environment Ordinance (Amendment), 1997 • State Forest Policy, 1954 • Forests Ordinance, 1958 • Forest Rules, 1962 • Forest Timber Licences
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<p>1.2 Degree of public participation in forest management, such as in planning, decision making, data collection, monitoring and assessment.</p>	<p>(i) List and describe the fora, processes and mechanisms used to enable the public to participate effectively in forest management in this forest management unit. This description should include: current legislation and administrative procedures; an enumeration of the parties consulted (individuals, communities, organisations etc.) and an assessment of how well they represent the sectors of society most interested; as well as the degree and level of their participation.</p> <p>(ii) Describe the institutions responsible for these processes and mechanisms.</p>	<p>(i) List and description of the fora, processes and mechanisms used to enable the public to participate effectively in forest management, including current legislation and administrative procedures, an enumeration of the parties consulted, an assessment of how well they represent the sectors of society most interested and the degree and level of their participation.</p> <p>(ii) List and description of the institutions responsible for these processes and mechanisms.</p> <p>Peninsular Malaysia</p> <p>-</p> <p>Sabah</p> <ul style="list-style-type: none"> • Social Base line study as prescribed under Clause 24 of the SFMLA. • Report or minutes of consultation sessions held. • Management committee established. <p>Sarawak</p> <ul style="list-style-type: none"> • Minutes of discussion among the consulted parties • Public declaration of FMU's Mission towards SFM
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Criterion 2: Forest Resource Security

2.1 Extent (area) and percentage of total land area under:
 (a) natural forest,
 (b) plantation forest,
 (c) permanent forest estate, and
 (d) comprehensive integrated land-use plans.

- (i) Prepare land-use maps of this forest management unit, at appropriate scale, depicting natural forest, plantation forest, permanent forest estate and land under comprehensive integrated land-use plans.
- (ii) Determine the extent (area) of each land-use class.
- (iii) Complete the information as required in Table 2.1.
- (iv) Indicate the sources of such data and the means by which they were obtained, for example, from remotely-sensed data etc.

Table 2.1: Extent and Percentage of Land-use Classes

Land-use Classes*	Area (100 ha)	Percent of Total Land Area# (%)
Land under integrated land-use plans		
Permanent forest estate (PFE)		
Natural forest within PFE		
Natural forest outside PFE		
Plantation forests within PFE		
Plantation forests outside PFE		

- * Note that these classes are not mutually exclusive and may overlap.
- # Refers to total land area of a country, excluding inland bodies and waterbodies.

Peninsular Malaysia

- (i) Record of gazettement of PFE.

Sabah

- Records of gazetted Forest Reserves or Permanent Forest Estate in Sabah.
- Maps at the scale of 1:250,000 depicting the permanent forest reserves and other land use in the FMU.
- Maps at the scale of 1:50,000 depicting areas within an FMU designated for production conservation, community and recreation.

Sarawak

Forest Type Map B on scale of 1:50,000

2.2 Length and percentage of external boundaries of the permanent forest estate demarcated or clearly defined.

- (i) Determine the extent and percentage of external boundaries in this forest management unit demarcated or clearly defined by natural or physical features, or through such means as under-brushing, marking of selected trees located along the boundaries and the fixing of signboards.
- (ii) Complete the information required in Table 2.2.
- (iii) Provide references for the source and date of the data used. The sources may be field data, maps, records etc. These should be the most recent available.
- (iv) Indicate the institutions responsible for this task.
- (v) Identify any constraint if the boundaries have not been demarcated or clearly defined, and describe plans for completing this task.

Table 2.2: External Boundaries of Permanent Forest Estate

Total External Boundaries of Permanent Forest Estate			
Length Demarcated (10 km)	Length Not-Demarcated (10 km)	Percent Demarcated (%)	Percent Not-Demarcated (%)

- (i) External boundaries of PFE demarcated with selected boundary trees marked with paint and plates, except where external boundaries are international and/or state boundaries, or are clearly defined by natural or physical features.

Peninsular Malaysia

- Selected boundary trees marked with 3 bands of red paint
- Permanent Reserved Forest (PRF) plates placed

Sabah

- Precision of survey must be of second class.
 1. All boundary markers painted red.
 2. Monument and pillars erected in every 1km.
 3. Clearing of two meters rentice along the boundary.
- Field inspection report.

Sarawak

- Boundary Map of PFE on scale of 1:50,000
- Sarawak Government Gazette
- Field Reports on boundary demarcation

Criterion 3: Flow of Forest Produce

3.1 Estimate of level of sustainable harvest for each main wood and non-wood forest product for each forest type.

- (i) Estimate the level of sustainable harvest in this forest management unit for each wood and non-wood product for each forest type in the permanent forest estate, building on sustained yield principles in a way that ensures the functioning of the forest ecosystem and incorporates its diverse elements.
- (ii) Complete the information as required in Table 3.1.

Table 3.1: Level of Sustainable Harvest by Forest Types

Main Forest Product	Forest Type			Total
	Dry Inland Forest	Peat Swamp Forest	Mangrove Forest	
Natural forest wood (m ³)				
Plantation forest wood (m ³)				
Rattan (metric tonnes)			N/A	
Others (please specify)				

N/A Not applicable.

- (i) Estimation of the level of sustainable harvest (yield/year) for each wood and non-wood product for the Dry Inland Forest, Peat Swamp Forest and Mangrove Forest in the PFE.

Peninsular Malaysia

- Annual Coupe = Net Harvestable Production Area divided by Cutting Cycle Length (ha/yr)
- Annual volume removed be less than or equal to Mean Commercial Annual Increment (m³/ha/yr) for regulated forests

Sabah

- Estimation of sustainable harvest level for the major forest types based on scientifically proven methods.
- Use of DIPSM (Dipterocarp Simulation Model) to estimate the level of sustainable harvest for logged-over dipterocarp forest.
- Annual volume removed in production forest be less than or equal to the Mean Commercial Annual Increment.
- Minimum residual stocking standards on prescribed by the relevant authority is observed.
- Permanent sample plots (PSP) are established to monitor growth and yield.

Reference:

DIPSIM – A Dipterocarp Forest Growth Simulation Model for Sabah.

Sarawak

- Hill Forest
Monthly Production Limit
Monthly Production Target for Hill PFE x Annual Coupe Area of Licence divided by Total Annual Area of all licences in the Hill PFE
- Peatswamp Forest
Area volume control is adopted for regulating annual cut

3.2 Quantity (volume) of wood and important non-wood forest products harvested for each forest type.

- (i) Collect information on the quantity (volume) harvested, from records of wood and important non-wood forest products harvested for each forest type in this forest management unit during the last five years, and compute the average annual quantity harvested for areas within the permanent forest estate, as well as other forested areas.
- (ii) Complete Table 3.2 and repeat the table for each forest type identified/classified.

Table 3.2: Quantity of Wood and Non-Wood Forest Products by Forest Types

Main Forest Product	Average Annual Quantity Harvested	
	Permanent Forest Estate	Other Forested Areas
Dry Inland Forest		
Natural forest wood (m ³)		
Plantation forest wood (m ³)		
Rattan (metric tonnes)		
Others (please specify)		
Peat Swamp Forest		
Natural forest wood (m ³)		
Plantation forest wood (m ³)		
Rattan (metric tonnes)		
Others (please specify)		
Mangrove Forest		
Natural forest wood (m ³)		
Plantation forest wood (m ³)		
Others (please specify)		

- (i) List of wood and non-wood forest products (quantity) harvested within the PFE and other forested areas during the last five years.

Peninsular Malaysia

- Quarterly reports on areas logged and volume removed
- Monthly reports on the revenue collected (value) on rattan, bamboo etc., through Shuttle Return No. I

Sabah

- Records of wood and important non wood forest products harvested in an FMU.
- Daily felling records.
- Compartment record book or register (Clause 55 and Schedule E of the SFMLA).

Sarawak

PEC (Permit to Enter Coupe) Progress Report

<p>3.3 Existence and implementation of:</p> <p>(a) forest management plans, and</p> <p>(b) forest harvesting (operational) plans.</p>	<p>(i) List and give a description of the procedures and processes adopted in formulating forest management plans and forest harvesting (operational) plans in the PFE in this forest management unit.</p> <p>(ii) Provide a listing of and documentation on the forest management plans and forest harvesting (operational) plans that are being implemented.</p> <p>(iii) Indicate whether there has been any significant change since the most recent assessment (give date). If so, elaborate on the changes.</p> <p>(iv) Give a brief description of the main institutions responsible and the level of implementation of these forest management plans and forest harvesting (operational) plans, including the identification of constraints that curtail their full implementation.</p>	<p>(i) List and description of the procedures and processes adopted in formulating forest management plans and forest harvesting (operational) plans for the PFE.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • <i>Manual Penyediaan Rancangan Pengurusan Hutan bagi Unit Pengurusan Hutan (Peringkat Negeri) di Semenanjung Malaysia, 1997</i> [Manual for the Preparation of Forest Management Plan for Forest Management Unit (State Level) in Peninsular Malaysia, 1997] • <i>Format Rancangan Tahunan Hutan (RTH) bagi Peringkat Negeri</i> • <i>Format Rancangan Tahunan Hutan (RTH) bagi Peringkat Daerah Hutan</i> <p>Sabah</p> <ul style="list-style-type: none"> • Guidelines on forest management planning. <p>Sarawak</p> <p>-</p> <p>(ii) List of the forest management plans and forest harvesting (operational) plans for the PFE that are being implemented.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • <i>Rancangan Pengurusan Hutan Negeri (10 Tahun)</i> • <i>Rancangan Kerja Hutan Daerah (5 Tahun)</i> • <i>Rancangan Tahunan Hutan Untuk Peringkat Negeri</i> • <i>Rancangan Tahunan Hutan Untuk Peringkat Daerah Hutan</i> <p>Sabah</p> <ul style="list-style-type: none"> • Forest Management Plan. • Annual Work Plan. • Comprehensive Harvesting Plan (CHP). • Report on the level of implementation. <p>Sarawak</p> <ul style="list-style-type: none"> • Forest Management Plan in consonance with the State Forest Policy 1954 • General Harvesting Plan on scale of 1:50,000 • Detailed Harvesting Plan on scale of 1:10,000
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3.4 Existence of long-term projections, strategies and plans for production, including the use of tree plantations.

- (i) Elaborate the strategies, plans and procedures adopted for projecting the production of wood and non-wood forest in this forest management unit, including those from tree plantations and indicate the main institutions responsible. Has there been significant change since the most recent assessment (give date)? If so, elaborate on the changes.
- (ii) Compute 10-year average annual production forecasts and use these figures to complete Table 3.4 for the year of reporting and at ten-yearly intervals for the next four decades for this forest type. Include tree plantations and repeat the table for this forest type identified/classified.
- (iii) Provide the sources of the data used to complete Table 3.4.

Table 3.4: Forecast of Production
of Wood and Non-Wood Forest Products by Forest Types

Main Forest Product	Yield Forecasts by Forest Types				
	(Average Annual Production for the Decade)				
	y* to y+10	y+11 to y+20	y+21 to y+30	y +31 to y+40	y+41 to y+50
Dry Inland Forest					
Natural Forest wood (m3)					
Plantation Forest wood (m3)					
Rattan (metric tonnes)					
Others (please specify)					
Peat Swamp Forest					
Natural Forest wood (m3)					
Plantation Forest wood (m3)					
Rattan (metric tonnes)					
Others (please specify)					
Mangrove Forest					
Natural Forest wood (m3)					
Plantation Forest wood (m3)					
Others (please specify)					

* y = year of reporting.

- (i) Compilation of 10-year average annual production forecasts for Dry Inland Forest, Peat Swamp Forest and Mangrove Forest for the Production Forest of the PFE where the annual volume removed be less than or equal to the Mean Commercial Annual Increment ($m^3/ha/yr$) for regulated forests, including the use of tree plantations.

Peninsular Malaysia

- Dry Inland Forest
 - (a) 55 years cutting cycle: $77 m^3/ha$ (net)*
 - (b) 30 years cutting cycle: $61 m^3/ha$ (net)*
 - Peat Swamp Forest
 - 40-60 years cutting cycle: $40-50 m^3/ha$ (net)*
 - Mangrove Forest
 - 20-30 years cutting cycle: $120-190 m^3/ha$ (net)*
 - Conversion Forest
 - Clear felling with an average production of $30 m^3/ha$ (net)
 - Plantation Forest
 - Final clear felling of *Acacia mangium* with an average production of $180 m^3/ha$ (net)
 - Rubber Plantation
 - Clear felling of rubber plantation during replanting with an average production of $27 m^3/ha$ (net)
- (* national averages for regulated forest)

Sabah

- Forest Management Planning procedures are implemented.
- Estimation of sustainable harvest level for the major forest based on scientifically proven methods.
- Use of DIPSIM (Dipterocarp Simulation Model) to estimate the level of sustainable harvest for logged over dipterocarp forest.
- Estimate production of tree plantation based on local growth data or national growth averages if local data is not available.
- List and describe strategies plans and procedures adopted for projecting the production of wood and non-wood forest products in the FMU.

Sarawak

- Hill MDF
 - Annual volume increment of $2.2 m^3/ha$ for stock + 40 cm of Grades 1, 2 and 3 trees
- Peatswamp Forest
 - Annual volume increment of $3.1 m^3/ha$
- Plantation Forest
 - Annual volume increment of $15 m^3/ha$

<p>3.5 Availability of historical records on the extent, nature and management of forest.</p>	<p>(i) List and give a description of the extent, nature and the effectiveness of using historical records in managing the forests in this forest management unit, especially the permanent forest estate, as well as highlight their deficiencies in enhancing sustainable forest management practices.</p>	<p>(i) Description of the extent and nature of historical records, and the effectiveness of using them in managing the forests, especially the PFE, and highlights of their deficiencies, if any, in enhancing sustainable forest management practices.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • Monthly reports of production through Shuttle Return No.1 • Quarterly reports on areas harvested <p>Sabah</p> <ul style="list-style-type: none"> • Forest management plan. • Compartment record book or register <p>Sarawak</p> <ul style="list-style-type: none"> • Journals and Files of the respective Permanent Forests • PEC (Permit to Enter Coupe) Progress Reports
<p>3.6 Availability and implementation of management guidelines for each of the main wood and non-wood forest products to be harvested, to cover:</p> <p>(a) the assessment of natural regeneration, and</p> <p>(b) measures to supplement natural regeneration where necessary.</p>	<p>(i) List and give a description of the management guidelines used to assess the natural regeneration for each of the main wood and non-wood forest products to be harvested in this forest management unit and measures taken to supplement natural regeneration, if required, and when they were first implemented, including the main institutions responsible.</p> <p>(ii) Indicate whether there has been significant change since the most recent assessment (give date). If so, elaborate on the changes.</p> <p>(iii) Give a brief description on the level of their implementation, including the identification of constraints that impede their full implementation.</p>	<p>(i) List and description of the management guidelines used to assess the natural regeneration for each of the main wood and non-wood forest products to be harvested, and guidelines to silviculturally treat and/or supplement natural regeneration, if required, including the main institutions responsible and when they were first implemented.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • <i>Panduan Kerja Luar Inventori Hutan Sebelum Tebangan [Bab 2, Manual Kerja Luar Sistem Pengurusan Memilih (Selective Management System), JPSM, 1997]</i> • <i>Panduan Penentuan Had Tebangan dari Maklumat Inventori Hutan Sebelum Tebangan (Kiraan Manual) [Bab 3, Manual Kerja Luar Sistem Pengurusan Memilih (Selective Management System), JPSM, 1997]</i> • <i>Panduan Kerja Luar Inventori Hutan Selepas Tebangan [Bab 6, Manual Kerja Luar Sistem Pengurusan Memilih (Selective Management System), JPSM, 1997]</i> • <i>Panduan Intepretasi Keputusan Inventori Hutan Selepas Tebangan [Bab 7, Manual Kerja Luar Sistem Pengurusan Memilih (Selective Management System), JPSM, 1997]</i> • Handbook on Enrichment Planting, 1978 • <i>Panduan Aktiviti Tanaman Mengaya (Pekeliling KPPSM Bil. 2/96) [Bab 9, Manual Kerja Luar Sistem Pengurusan Memilih (Selective Management System), JPSM, 1997]</i> • Results of Pre-felling and Post-felling Forest Inventories • Records of trees marked for felling

		<ul style="list-style-type: none"> • <i>Peraturan Menggelang Pokok dan Memotong Akar/Pepanjang (GCL) (Pekeliling KPPSM Bil. 1/96)</i> [Bab 8, <i>Manual Kerja Luar Sistem Pengurusan Memilih (Selective Management System)</i>, JPSM, 1997] • Records of enrichment planting • Records of planting of rattan, forest fruit trees etc. <p>Sabah</p> <ul style="list-style-type: none"> • Medium term management inventory to assess growing stock of an FMU. • Diagnostic survey in the preparation of Annual Work Plan to determine areas for enrichment or silvicultural treatment. • Technical standards for silvicultural treatments (Schedule I of the SFMLA). • Technical standards for enrichment planting (Schedule J of the SFMLA) • List and describe other relevant assessment procedures developed. • Report on the level of implementation. <p>Sarawak The Manual of Silviculture for the Permanent Forest Estate of Sarawak 1999</p>
<p>3.7 Availability and implementation of guidelines for reduced/low impact logging to minimise damage to residual stand.</p>	<p>(i) List and give a description of the guidelines used for reduced/low impact logging that minimise damage to residual stands in this forest management unit, including the main institutions responsible.</p> <p>(ii) Indicate whether there has been significant change since the most recent assessment (give date). If so, elaborate on the changes.</p> <p>(iii) Assess the extent to which the guidelines for reduced/low impact logging to minimise damage to residual stands are being implemented.</p>	<p>(i) List and description of the guidelines used for reduced/low impact logging that minimise damage to residual stands, including the main institutions responsible.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • <i>Panduan Pelaksanaan Penandaan Pokok dengan cara Timber Tagging</i> [Bab 4, <i>Manual Kerja Luar Sistem Pengurusan Memilih (Selective Management System)</i>, JPSM, 1997] <p>Sabah</p> <ul style="list-style-type: none"> • Technical Specification for Reduced Impact Logging (Schedule F of the SFMLA). • RIL Operation Guide Book specifically for tracked skidder use. • Cable logging techniques. • Reference manual for timber harvesting operations in Commercial Class II Forest Reserves in Sabah. • List and describe any harvesting system that is approved and used. • Report on the level of implementation <p>Sarawak Procedures on reduced/low impact harvesting systems 1999</p>

Criterion 4: Biological Diversity		
4.1 Existence and implementation of procedures to identify endangered, rare and threatened species of forest flora and fauna.	<ul style="list-style-type: none"> (i) List and describe the most recent procedures available to list endangered, rare and threatened species of forest flora and fauna in this forest management unit, in accordance with the IUCN categories ¹, for the reporting period and assess their adequacy. (ii) Name the institutions responsible. (iii) Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes. (iv) Give a brief description of the measures taken to implement these procedures. Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes. 	<ul style="list-style-type: none"> (i) List and description of measures taken to implement the procedures. <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • Minimum cutting limit for <i>Neobalanocarpus heimii</i> (chengal) be equal to or greater than 60 cm dbh • Endangered, rare and threatened tree species marked and felling is prohibited, if present • Endangered, rare and threatened animal species protected, if present <p>Sabah</p> <ul style="list-style-type: none"> • Endangered, rare and threatened tree species marked and felling is prohibited. • Endangered, rare and threatened animal species protected. • List of prohibited species as per Schedule B of the SFMLA is strictly observed and excluded from harvesting. • List of endangered, rare and threatened species of forest flora and fauna as published by the relevant authority is observed. • Report on the efforts undertaken to identify endangered, rare and threatened species of flora and fauna. <p>Sarawak Procedures for pre-felling inventory</p>

¹ See **Appendix 1**, “New (post-1994) IUCN Endangered Status Categories”

For many years the extent to which species were endangered were described by the three categories 'endangered', 'rare' and 'threatened'. These are the terms used in Indicator 4.1. Since 1994, however, a new and more exact series of categories has been adopted by IUCN. These are reproduced in **Appendix 1**. Countries should, as far as possible, use the new categories; but, if any country has not yet adopted the new categories, they should use the pre-1994 Categories instead. Where the word 'endangered' is used in the text of these Criteria and Indicators, this should be taken to include the three new categories 'Critically Endangered' (CR), 'Endangered' (EN) and 'Vulnerable' (VU).

<p>4.2 Existence and implementation of management guidelines to:</p> <p>(a) keep undisturbed a part of each production forest,</p> <p>(b) protect endangered, rare and threatened species of forest flora and fauna, and</p> <p>(c) protect features of special biological interest, such as seed trees, nesting sites, niches and keystone species.</p>	<p>(i) List and describe the respective regional guidelines for items (a) to (c).</p> <p>(ii) Determine the percentage of production forest in this forest management unit where the respective regional guidelines to keep undisturbed representative or special parts of each production forest are applied.</p> <p>(iii) Name the institutions responsible.</p> <p>(iv) List the species covered by the respective regional guidelines to protect endangered, rare and threatened species of forest flora and fauna within the production forest of this forest management unit.</p> <p>(v) Determine the percentage of production forest in this forest management unit where these guidelines are implemented.</p> <p>(vi) Name the institutions responsible.</p> <p>(vii) List the special features that are covered by the respective regional guidelines to protect features of special biological interest within production forests such as seed trees, nesting sites, niches and keystone species.</p> <p>(viii) Determine the percentage of production forest in this forest management unit where these guidelines are implemented.</p> <p>(ix) Name the institutions responsible.</p>	<p>(i) Compilation of the extent (area) and percentage of production forest in the PFE where the respective regional guidelines to keep undisturbed representative or special parts of each production forest are applied, including the institutions responsible.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • <i>Manual Perhutanan Semenanjung Malaysia, 1953 (Pindaan 1995), Bahagian III, Bab 18 – Pemeliharaan Hutan</i> <p>(ii) Compilation of the extent (area) and percentage of production forest in the PFE that the respective regional guidelines to protect endangered, rare and threatened species of forest flora and fauna within the production forest are implemented, including the institutions responsible.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • <i>Kod Amalan Pengusahaan Hutan Darat Asli Semenanjung Malaysia, 1997</i> • Total area loss after forest harvesting be less than 30% using ground skidding harvesting method <p>(iii) Compilation of the extent (area) and percentage of production forest in the PFE where the respective regional guidelines to protect features of special biological interest within production forests such as seed trees, nesting sites, niches and keystone species are implemented, including the institutions responsible.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • At least four seed trees per hectare of 30 cm dbh and above in the Production Forest of the PFE are marked and protected • Annual volume removed in the Production Forest of the PFE be less than or equal to Mean Commercial Annual Increment (m³/ha/yr) for regulated forest • Road density of feeder roads of less than or equal to 40 m/ha • Density of skid trails of less than or equal to 300 m/ha <p>(iv) At least 5% of the forest management unit be reserved for conservation purposes.</p>
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		<p>Sabah</p> <ul style="list-style-type: none"> • Manual on Forest management planning zoning of forest functions based on:- <ol style="list-style-type: none"> (1) Production Area:- <ol style="list-style-type: none"> a. Natural Forest <ul style="list-style-type: none"> ◆ <25⁰ slope unless conservation area. ◆ for production of timber by means of natural regeneration or line planting of high value timber species. ◆ production of non-timber forest produce. b. Timber Plantations <ul style="list-style-type: none"> ◆ < 15⁰ slope ◆ degraded forest having no exploitable volume of trees >60cm dbh and insufficient regeneration ◆ short rotation of single or mixed ITP. <ul style="list-style-type: none"> long term rotation of high value. <ul style="list-style-type: none"> timber indigenous or foreign tree species. (2) Conservation Area <ul style="list-style-type: none"> ◆ >25⁰ slope ◆ <25⁰ slope but special importance for watershed protection or for the conservation of plant and wildlife habitat. ◆ Uses limited to non-timber forest produce only. (3) Community Area <ul style="list-style-type: none"> ◆ Forest area with direct vicinity of settlements for local population to exercise customary rights (timber, non-timber forest produce, hunting etc). (4) Recreation Area <ul style="list-style-type: none"> ◆ Areas with recreational potential eg. Waterfall, caves for the development of local recreation and tourism. • Maps depicting the various forest functions based on the above specifications <p>Sarawak</p> <ul style="list-style-type: none"> • Detailed Harvesting Plan on scale of 1:10,000 to show excluded areas • DF Circular No. 6/1999 on Conservation of Wildlife in Forest Timber Licence Areas
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<p>4.3 Existence and implementation of procedures for assessing changes of biological diversity of the production forests, compared with areas in the same forest type kept free from human intervention.</p>	<p>(i) Elaborate the respective regional procedures for the protection of representative areas of each forest type and the procedures for the periodic monitoring of chosen parameters of biological diversity in <u>both</u> areas of production forest in this forest management unit <u>and</u> comparable areas of protected forest.</p> <p>(ii) Name the institutions responsible for their implementation.</p>	<p>(i) Description of respective regional procedures used for protecting undisturbed representative forest areas and the procedures for the periodic monitoring of these areas and logged-over forest of the same forest type in the PFE, including the institutions responsible for their implementation.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • Guidelines for the Establishment of Virgin Jungle Reserves (VJRs) • VJR size of at least 150 ha as of 1987 with buffer strip of 20 m width • Guidelines for conducting Pre-felling and Post-felling Forest Inventories • Results of Pre-felling and Post-felling Forest Inventories <p>Sabah</p> <ul style="list-style-type: none"> • List of studies undertaken to monitor and assess changes of biological diversity in the production forest • Permanent sample plots established for each representative forest type/condition <p>Sarawak</p> <p>Procedures for the assessment of yield plots (in harvested areas) and long-term ecological research (LTER) plots</p>
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Criterion 5: Soil and Water											
<p>5.1 Extent and percentage of total forest area managed primarily for the protection of soil and water.</p>	<p>(i) Complete Table 5.1 from national forest statistics.</p> <p style="text-align: center;"><u>Table 5.1: Forest Area Managed Primarily for the Protection of Soil and Water</u></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Forest</th> <th style="text-align: center;">Area (ha)</th> <th style="text-align: center;">Percent Area (%)</th> </tr> </thead> <tbody> <tr> <td>Total forest area of this forest management unit</td> <td></td> <td style="text-align: center;">100</td> </tr> <tr> <td>Forest area managed primarily for protection of soil and water</td> <td></td> <td></td> </tr> </tbody> </table>	Forest	Area (ha)	Percent Area (%)	Total forest area of this forest management unit		100	Forest area managed primarily for protection of soil and water			<p>Peninsular Malaysia</p> <p>(i) Records on location and extent of water catchment forest and soil protection forest as classified under the National Forestry Act, 1984, Section 10 (1).</p> <p>(ii) Felling of trees in forested catchment area is prohibited.</p> <p>Sabah</p> <ul style="list-style-type: none"> • Forest area managed primarily for the protection of soil and water. <ul style="list-style-type: none"> ◆ Forest Area with slope >25° is protected. ◆ Other pre defined watershed and water catchment is protected. <p>Sarawak</p> <p>General Harvesting Plan (GP) on scale of 1:50,000 showing areas to be managed primarily for the protection of soil and water</p>
Forest	Area (ha)	Percent Area (%)									
Total forest area of this forest management unit		100									
Forest area managed primarily for protection of soil and water											
<p>5.2 Extent and percentage of area to be harvested which has been defined as environmentally sensitive (e.g. very steep or erodible) and protected before harvesting.</p>	<p>(i) Demarcate steep areas in this forest management unit, including areas in the PFE for environmental protection in accordance with the respective regional legislation/ordinances before forest harvesting.</p>	<p>Peninsular Malaysia</p> <p>(i) Areas in the PFE with elevation above 1,000 m where felling of trees is prohibited.</p> <p>(ii) Areas in the PFE with elevation less than 1,000 m but having slopes generally greater than or equal to 40° where felling of trees is prohibited.</p> <p>(iii) Trees equal to and those above cutting limits for environmentally sensitive spots within the Production Forest of the PFE marked and protected.</p> <p>(iv) Areas in the PFE classified as soil protection forest, soil reclamation forest, flood control forest, water catchment forest, forest sanctuary for wildlife, virgin jungle reserved forest, amenity forest, education forest and research forest under the National Forestry Act, 1984, Section 10 (1) where commercial felling of trees is prohibited.</p>									

5.3 Percentage of length of edges of watercourses, waterbodies, mangroves and other wetlands protected by adequate buffer strips.

- (i) Map all buffer strips within this forest management unit.
- (ii) Calculate the length and percentage of the edges which have been designated as buffer strips, and which are adequately protected.
- (iii) Aggregate this information to complete Table 5.3.

Table 5.3: Buffer Strips

Forest Type	Buffer Strips			
	Permanent Watercourses		Waterbodies	
	Length Protected (100 km)	Percent (%)*	Length Protected (100 km)	Percent (%)*
Dry Inland Forest				
Peat Swamp Forest				
Mangrove Forest+				
Total				

- * Percent of total length of edges of permanent watercourses and waterbodies.
- + Include edges of mangrove forests designated as buffer strips.

- (i) Demarcate edges of watercourses, mangroves and other wetlands.

Peninsular Malaysia

- Buffer strips of permanent watercourses in Dry Inland Forest and Peat Swamp Forest of at least 5 m wide on either side of the watercourse
- Buffer strips of permanent watercourses in Mangrove Forest of at least 3 m wide on either side of the watercourse
- Buffer strips of at least 50 m on seaward side of Mangrove Forest be protected from felling of trees

Sabah

- Maps at the scale of 1:5,000 depicting all the buffer strips at the compartment level.
- Riparian reserve are identified, demarcated and protected in accordance to the existing laws and regulation.
- Buffer zones for other waterbodies are identified and protected in accordance to the existing laws and regulations.

Sarawak

Detailed Harvesting Plan on scale of 1:10,000

<p>5.4 Existence and implementation of procedures to identify and demarcate sensitive areas for the protection of soil and water.</p>	<p>(i) List and describe the most recent procedures available to identify and demarcate sensitive areas for the protection of soil and water in this forest management unit and assess their adequacy.</p> <p>(ii) Name the institutions responsible.</p> <p>(iii) Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes.</p> <p>(iv) Give a brief description of the measures taken to implement these procedures. Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes.</p>	<p>(i) List and description of the procedures used to identify and demarcate sensitive areas for the protection of soil and water and an assessment of their adequacy, including the institutions responsible.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • <i>Kod Amalan Pengusahaan Hutan Darat Asli Semenanjung Malaysia, 1997</i> <p>(ii) List and description of measures taken to implement these procedures.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • Areas in the PFE with elevation greater than or equal to 1,000 m where felling of trees is prohibited • Areas in the PFE with elevation less than 1,000 m but having slope generally greater than or equal to 40° where felling of trees is prohibited • Trees equal to and those above cutting limits for environmentally sensitive spots within the Production Forest of the PFE marked and protected • Areas in the PFE classified as soil protection forest, soil reclamation forest and flood control forest under the National Forestry Act 1984, Section 10 (1) where commercial felling of trees is prohibited <p>Sabah</p> <ul style="list-style-type: none"> • Handbook on Forest Management. • Guideline on forest management planning. • Forest management plan. • Annual Work Plan. • Comprehensive harvesting plan. • Technical Specifications for reduced impact logging (Schedule F of SFMLA). • RIL Operation Guidebook specially for tracked skidder use. • Cable logging techniques. • Reference manual for timber harvesting operations in Commercial Class II forest reserves in Sabah. • Report on the measures undertaken to implement these procedures. <p>Sarawak</p> <p>Procedures for identifying and demarcating sensitive areas for the protection of soil and water.</p>
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<p>5.5 Availability and implementation of guidelines for forest road lay-out, including drainage requirements and conservation of buffer strips along streams and rivers.</p>	<p>(i) List and describe the most recent guidelines available for forest road lay-out in this forest management unit, including drainage requirements and conservation of buffer strips along streams and rivers, and assess their adequacy.</p> <p>(ii) Name the institutions responsible.</p> <p>(iii) Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes.</p> <p>(iv) Give a brief description of the measures taken to implement these guidelines. Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes.</p>	<p>(i) List and description of the guidelines used for forest road lay-out, including drainage requirements and conservation of buffer strips along streams and rivers, and an assessment of their adequacy, including the institutions responsible.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • <i>Spesifikasi Jalan Hutan (Jalan Tuju dan Lorong Penarik) untuk Semenanjung Malaysia, 1999</i> • <i>Kod Amalan Pengusahaan Hutan Darat Asli Semenanjung Malaysia, 1997</i> • <i>Manual Perhutanan Semenanjung Malaysia, 1953 (Pindaan 1995), Bahagian II, Bab 11 - Pengusahaan Hutan</i> <p>(ii) List and description of measures taken to implement these guidelines.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • Density of feeder roads of less than or equal to 40 m/ha • Density of skid trails of less than or equal to 300 m/ha • Right of way for feeder roads less than or equal to 15 m • Gradient of feeder roads of less than or equal to 20% (11.3°), but will follow natural benches and features and when using existing roads or as specified by the Forest Engineer • Road camber of feeder roads of at least 1:20 (straight) (5%) • Cross-fall for feeder roads of at least 1:33 (3%) • Carriageway of feeder roads (single lane) with width of at least 4 m, except at corners and lay-bys • V-shaped side drains (earth) along feeder roads constructed • Adequate culverts of log/concrete/ metal/High Density Polyethylene (HDPE) located at stream or river crossings, where required or as specified by the Forest Engineer • Bridges of timber/concrete box culvert/ steel of at least 3.5 m in width at stream or river crossings, where required • Silt traps in erosion prone areas along feeder roads, as specified by the Forest Engineer • Buffer strips for permanent streams and rivers in Inland Forest and Peat Swamp Forest of at least 5 m in width on either side of the stream or river • Buffer strips for stream and river protection are marked and felling of trees is prohibited
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		<p>Sabah</p> <ul style="list-style-type: none"> • Technical specification for reduced impact logging in Schedule F of SFMLA is observed. • Reference manual for timber harvesting operations in Commercial Class II forest reserves in Sabah. <ol style="list-style-type: none"> 1. Road density of feeder roads not exceeding 20m/ha for tractor skidding area and not exceeding 5m/ha for Skyline Yarding area. 2. Road gradient of feeder roads must not exceed 15% (except 20% for pitches and not exceeding 150 continuous meters) but will follow natural benches and features and when using existing roads or as specified by the Forest Engineer. 3. Total area occupied by skid trails not exceeding 6% of the total net logged area. 4. Gradient of skid trails not exceeding 47%. 5. Right of way of feeder roads of less than or equal to 15m. 6. Width of skid trails not exceeding 4.5m on slopes up to 20° and 5m on slopes >20° 7. Carriage way of feeder roads (single lane) with width of 5-6m. 8. Cross drains are constructed on roads and skid trails. <ul style="list-style-type: none"> • 0.5m in height • Approximately 45° to the road alignment. • Drain intervals of 20-30m for gradient of 5-15° and <20m for gradient of >15° <p>Sarawak</p> <ul style="list-style-type: none"> • General specifications of logging roads • Report on survey of constructed roads (Form OFE 4/1 and OFB 4/2)
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<p>5.6 Availability and implementation of harvesting procedures:</p> <p>(a) to protect the soil from compaction by harvesting machinery, and</p> <p>(b) to protect the soil from erosion during harvesting operations.</p>	<p>(i) List and describe the most recent harvesting procedures available which protect the soil for this forest management unit and assess their adequacy.</p> <p>(ii) Name the institutions responsible.</p> <p>(iii) Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes.</p> <p>(iv) Give a brief description of the measures taken to implement these procedures. Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes.</p>	<p>(i) List and description of the harvesting procedures used to protect the soil from compaction by harvesting machinery and from erosion during harvesting operations, and an assessment of their adequacy, including the institutions responsible.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • <i>Spesifikasi Jalan Hutan (Jalan Tuju dan Lorong Penarik) untuk Semenanjung Malaysia, 1999</i> • <i>Kod Amalan Pengusahaan Hutan Darat Asli Semenanjung Malaysia, 1997</i> <p>(ii) List and description of measures taken to implement these procedures.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • Density of feeder roads of less than or equal to 40 m/ha • Density of skid trails of less than or equal to 300m/ha • Gradient of feeder roads of less than or equal to 20% (11.3°), but will follow natural benches and features and when using existing roads or as specified by the Forest Engineer • Skid trails regenerated with appropriate species, mainly indigenous tree species <p>Sabah</p> <ul style="list-style-type: none"> • Technical Specifications for reduced impact logging in Schedule F of SFMLA is observed. • Reference manual for timber harvesting operations in Commercial Class II forest reserves in Sabah. <p>Sarawak</p> <p>Procedures on reduce/low impact harvesting system</p>
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Criteria 6: Economic, Social and Cultural Aspects

6.1 Ratio of domestic log production to processing capacity of wood-based industries.

- (i) Collect data on domestic log production and the processing (installed) capacity of the wood-based industries utilising logs in this forest management unit, based on an eight-hour shift, for the previous five years.
- (ii) Compute the ratio of domestic log production to that of the processing capacity of the wood-based industries so as to indicate the proportion of logs consumed by the wood-based industries, especially the primary processing industries.
- (iii) Complete the information as required in Table 6.1 which will also indicate trends in the utilisation of domestic logs by the wood-based industries.

Table 6.1: Ratios of Domestic Log Production to Processing Capacity of Wood-Based Industries

Year	Domestic Log Production (1000 m ³) (1)	Capacity of Wood-Based Industries (1000 m ³) (2)	Ratio+ (3)
y*-5			
y-4			
y-3			
y-2			
y-1			

* y = year of reporting.
+ Column (3) = column (1) ÷ column (2).

(i) Compilation of the domestic log production and the processing (installed) capacity of the wood-based industries utilising logs, based on an eight-hour shift, for the previous five years.

Peninsular Malaysia

- Records of sawmills through Shuttle Return No. IV
- Records of plywood mills through Shuttle Return No. V
- Records of moulding mills through Shuttle Return No. VIII

6.2 Existence and implementation of mechanisms for the effective distribution of incentives and the fair and equitable sharing of costs and benefits among the parties involved.

- (i) For this forest management unit, report on:
 - (a) Forest revenue collected by State Government;
 - (b) Federal budget allocated to State Government for forest management;
 - (c) State budget allocated for forest management;
 - (d) State budget allocated for forest administration; and
 - (e) Annual budget allocated from forest development funds as established under the relevant regional forest legislation/ordinances for forest development activities.

Peninsular Malaysia

- (i) Monthly revenue statements through Ledger Accounts.
- (ii) Approved Annual Federal budget to State Government for forest management through Annual Allocation Warrant.
- (iii) Approved Annual State budget for forest management through Annual Allocation Warrant.
- (iv) Approved Annual State budget for forest administration through Annual Allocation Warrant.
- (v) Approved Annual State budget from the Forest Development Fund for forest development activities.

<p>6.3 Existence and implementation of procedures to ensure the health and safety of forest workers.</p>	<p>(i) List and describe the most recent procedures available to ensure the health and safety of forest workers available for this forest management unit for the reporting period and assess their adequacy.</p> <p>(ii) Name the institutions responsible.</p> <p>(iii) Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes.</p> <p>(iv) Give a brief description of the measures taken to implement these procedures. Indicate whether there has been any change since the most recent assessment (give date). If so, elaborate on the changes.</p>	<p>(i) List and description of measures taken to implement the procedures.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • Course content on health and safety of forest workers • List of courses held and number of personnel participated <p>Sabah</p> <ul style="list-style-type: none"> • Health and Safety measures are observed (Clause 34 of the SFMLA). • Other applicable laws involving accidents.(Clause 37 of the SFMLA). • Safety procedures and equipment are complied with in all forest operations. • Report on the measures undertaken to implement these procedures. <p>Sarawak</p> <ul style="list-style-type: none"> • Campaign on Health and Safety sent annually to Timber Companies by STIDC • Insurance coverage for forest workers as required under Section 54A of Forests Ordinance 1958 & SOCSO • STA Tree Felling Training Programme • Clinics established by Timber Companies
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<p>6.4 Employment in the forestry sector:</p> <p>(a) number employed, (b) percentage of total workforce, (c) average wage rate, (d) injury rate, and (e) mortality rate.</p>	<p>(i) Collect data on employment in the forestry sector in this forest management unit for items (a) to (e) for the previous five years so as to indicate trends.</p> <p>(ii) Complete the information as required in Table 6.4.</p> <p style="text-align: center;"><u>Table 6.4: Statistics of Employment in the Forestry Sector</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Item</th> <th colspan="10">Year</th> </tr> <tr> <th colspan="2">y*-5</th> <th colspan="2">y-4</th> <th colspan="2">y-3</th> <th colspan="2">y-2</th> <th colspan="2">y-1</th> </tr> <tr> <th>Gender</th> <th>M</th> <th>F</th> <th>M</th> <th>F</th> <th>M</th> <th>F</th> <th>M</th> <th>F</th> <th>M</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>Total number employed</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Percentage of total workforce</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Average wage rate</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Total number injured</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Injury rate (%)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Total fatalities</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Mortality rate (%)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>* y = year of reporting. M = Male; F = Female.</p>	Item	Year										y*-5		y-4		y-3		y-2		y-1		Gender	M	F	M	F	M	F	M	F	M	F	Total number employed											Percentage of total workforce											Average wage rate											Total number injured											Injury rate (%)											Total fatalities											Mortality rate (%)											<p>(i) Compilation of data on employment in the forestry sector for items (a) to (e) for the previous five years.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> Quarterly reports on direct employment in the logging and wood processing sectors through Shuttle Returns No. IV, V and VIII Annual report on direct employment in management and administration of the forest resources Annual report on the range and average wage rates in the logging and processing sectors and those directly involved in the management and administration of the forest resources Annual report on injury rate in the forestry sector <p>Sabah</p> <ul style="list-style-type: none"> Records on number of people employed and the average wage rate. <ul style="list-style-type: none"> Certificate of identify Employment preference as specified in Clause 25. minimum employment of Malaysian personnel as specified in Clause 24 is adhered to. Employment of other personnel as specified in Clause 29. Records on cases of casualties or injuries in forest operations. <p>Sarawak</p> <ul style="list-style-type: none"> Monthly Labour Return to Labour Department <i>Borang</i> [Form] 10 and 21 of SOCSO STIDC Annual Safety Report
Item	Year																																																																																																														
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<p>6.5 Number and extent of forest sites available primarily for:</p> <p>(a) research, (b) education, (c) the direct use and benefit of local communities, and (d) recreation.</p>	<p>(i) Identify forest areas earmarked for the items (a) to (d).</p> <p>(ii) Compile the number and extent (area) of forest sites available for the items (a) to (d).</p> <p>(iii) Complete the information as required in Table 6.5.</p> <p style="text-align: center;"><u>Table 6.5: Number and Extent of Forest Sites for Research, Education, Local Communities' Use and Recreation</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type of Forest Site</th> <th>Number</th> <th>Area (100 ha)</th> </tr> </thead> <tbody> <tr> <td>a. Research</td> <td></td> <td></td> </tr> <tr> <td>b. Education</td> <td></td> <td></td> </tr> <tr> <td>c. Local communities' use</td> <td></td> <td></td> </tr> <tr> <td>d. Recreation</td> <td></td> <td></td> </tr> </tbody> </table>	Type of Forest Site	Number	Area (100 ha)	a. Research			b. Education			c. Local communities' use			d. Recreation			<p>Peninsular Malaysia</p> <p>(i) List of number, location and extent of research and education sites classified under the National Forestry Act, 1984, Section 10 (1).</p> <p>(ii) List of number, location and extent, where appropriate, of sites made available for the collection of forest fruits, rattan, bamboo etc.</p> <p>(iii) List of number, location and extent of forest recreational sites developed in the PFE for use by the public.</p> <p>Sarawak</p> <ul style="list-style-type: none"> Issue of Permit for collection of minor forest produce List of number, location and size of communal forest List of number, location and size of recreational sites 																																																																																														
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<p>6.6 Number of visitors to forest for recreational purposes.</p>	<p>(i) Record the number of people visiting each forest site in this forest management unit earmarked for recreational purposes.</p> <p>(ii) Complete the information as required in Table 6.6 for the previous five years so as to indicate the trends in usage of such sites.</p> <p style="text-align: center;"><u>Table 6.6: Number of Visitors to Recreational Forests</u></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Year</th> <th>Total Number of Sites</th> <th>Total Number of Visitors</th> </tr> </thead> <tbody> <tr> <td>y*-5</td> <td></td> <td></td> </tr> <tr> <td>y-4</td> <td></td> <td></td> </tr> <tr> <td>y-3</td> <td></td> <td></td> </tr> <tr> <td>y-2</td> <td></td> <td></td> </tr> <tr> <td>y-1</td> <td></td> <td></td> </tr> </tbody> </table> <p style="text-align: center;">* y = year of reporting.</p>	Year	Total Number of Sites	Total Number of Visitors	y*-5			y-4			y-3			y-2			y-1			<p>(i) Compilation of the number of visitors to forest recreational sites for the previous five years.</p> <p>Sarawak Visitors' Record Book</p>
Year	Total Number of Sites	Total Number of Visitors																		
y*-5																				
y-4																				
y-3																				
y-2																				
y-1																				
<p>6.7 Extent to which tenure and user rights over the forest are documented and recognised.</p>	<p>(i) Identify tenure and user rights of forest in this forest management unit.</p> <p>(ii) Describe the extent to which the tenure and user rights are documented and recognised by law.</p>	<p>(i) List and description of tenure and user rights of forest in the PFE within this FMU.</p> <p>(ii) Description on the extent to which the tenure and user rights are documented and recognised by law.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • National Forestry Act 1984 - Sections 19, 34, 50, 62(2)(a)(i) and (ii), 62(2)(b)(i) to (iv), and 98 • Aboriginal Peoples Act, 1954 - Sections 8 and 19 <p>Sabah</p> <ul style="list-style-type: none"> • Ascertain tenure and user rights based on social baseline study and consultation with the affected local communities. • Clause 23 of the SFMLA is observed. • Forest Management Plan. <p>Sarawak</p> <ul style="list-style-type: none"> • Report of inquiry on the Constitution of Permanent Forest Estate • Sarawak Government Gazette 																		

<p>6.8 Extent to which forest planning and management practices and processes consider and recognise legal or customary rights with respect to indigenous people and local communities, forest dwellers and other forest-dependent communities.</p>	<p>(i) Identify legal and customary rights of local communities in this forest management unit.</p> <p>(ii) Describe the extent to which these rights are considered and recognised in forest planning and management practices and related processes. In making this assessment, the interested parties should be consulted.</p>	<p>(i) List and description of legal and customary rights of local communities in the PFE within this FMU.</p> <p>(ii) Description on the extent to which these rights are considered and recognised in forest planning and management practices and related processes in consultation with interested parties.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • National Forestry Policy, 1978 - Paragraph 2.2.8 • National Forestry Act 1984 - Sections 19, 28, 33 and 34 • Forest Rules - Rules 28 to 30 • Aboriginal Peoples Act, 1954 - Sections 6(2)(iv) and 10 <p>Sabah</p> <ul style="list-style-type: none"> • The rights and privileges of the natives under the existing laws and regulations including customary law are observed (Clause 23 of the SFMLA). • Report on the extent to which these right are considered and recognised in the FMU. (Forestry Department). • Forest Management Plan. <p>Sarawak</p> <ul style="list-style-type: none"> • Minutes of discussion among consulted parties • Agreements among consulted parties
<p>6.9 Extent of participation by indigenous people and local communities, forest dwellers and other forest-dependent communities in forest-based socio-economic activities.</p>	<p>(i) Identify the forest-based socio-economic activities participated in by local communities in this forest management unit.</p> <p>(ii) Describe the level of participation by local communities in forest-based socio-economic activities. In making this assessment, the interested parties should be consulted.</p>	<p>(i) List and description of forest-based socio-economic activities participated in by local communities.</p> <p>Peninsular Malaysia</p> <ul style="list-style-type: none"> • List of number of licences approved to local communities for the collection of non-wood forest produce • List of number of licences approved to local communities for the processing of wood and non-wood forest produce • List of number of sub-licences issued to local communities engaged in forest harvesting activities • List of number of contracts awarded to local communities for undertaking forest development activities <p>Sarawak</p> <ul style="list-style-type: none"> • List of number of permits or licences issued for taking forest produce • List of number of contracts awarded to local communities by timber operators • Employment records of timber companies

New (post-1994) IUCN Endangerment Status Categories*

Extinct (Ex)

A species is Extinct when there is no reasonable doubt that the last individual has died.

Extinct in the Wild (EW)

A species is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalised population (or populations) well outside the past range. A species is presumed extinct in the wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range failed to record an individual. Surveys should be over a time frame appropriate to the species's life cycle and life form.

Critically Endangered (CR)

A species is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future.

Endangered (EN)

A species is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future.

Vulnerable (VU)

A species is vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future.

Lower Risk (LR)

A species is Lower Risk when it has been evaluated, but does not satisfy the criteria for any of the categories, Critically Endangered, Endangered or Vulnerable.

Data Deficient (DD)

A species is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk extinction based on its distribution and/or population status. A species in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat or Lower Risk. Listing of species in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases, great care should be exercised in choosing between DD and threatened status. If the range of a species is suspected to be relatively circumscribed, if a considerable period of time has elapsed since the last record of the species, threatened status may well be justified.

Not Evaluated (NE)

A species is Not Evaluated when it has not yet been assessed against the criteria.

* For further information please contact the Information Officer, World Conservation Monitoring Centre, 219 Huntingdon Road, Cambridge CB30DL, United Kingdom.