UPM
UNIVERSITI PUTRA MALAYSIA
BERILMU BERBAKTI

Guidelines and Procedures for Social Impact Assessment and Monitoring of Forest Management Operations (Peninsular Malaysia)

APRIL 2012

GUIDELINES AND PROCEDURES FOR SOCIAL IMPACT ASSESSMENT AND MONITORING OF FOREST MANAGEMENT OPERATIONS (PENINSULAR MALAYSIA)

Institute of Tropical Forestry and Forest Products
Universiti Putra Malaysia
43400 Serdang
Selangor Malaysia

Copyright 2012
Perpustakaan Negara Malaysia-in Publication-Data

ISBN : 978-983-44426-4-4

Guidelines and Procedures for Social Impact Assessment and Monitoring of Forest Management Operations (Peninsular Malaysia)

Printed by: Jaybees Print Industries Sdn.Bhd

FOREWORD

The social aspects of forest management are an important consideration in the forest management standard i.e. the *Malaysian Criteria and Indicators for Forest Management Certification (MC&I)* used in the Malaysian Timber Certification Scheme (MTCS) operated by the Malaysian Timber Certification Council (MTCC). As part of these considerations, the MC&I requires the manager of the Forest Management Unit (FMU) to consult the people and groups directly affected by the forest management operations in the Permanent Reserved Forests in the FMU and to evaluate the social impacts of these operations, as well as to incorporate the results of the evaluation into the forest planning and management practices of the FMU. The MC&I also requires the FMU manager to monitor the effectiveness of measures taken to mitigate or enhance the social impacts of the forest operations on the affected parties. In the context of Peninsular Malaysia, the people and groups which are most likely to be affected by the forest operations would be the aborigines *(Orang Asli)* and/or local communities located within or adjacent to the FMU.

The *Guidelines and Procedures for Social Impact Assessment and Monitoring of Forest Management Operations (Peninsular Malaysia)* has been developed to provide guidance and to assist the FMU managers in conducting the evaluation of the social impacts of the forest management operations to comply with the requirements of the MC&I. This document was developed through a project formulated by MTCC under the Ministry of Plantation Industries and Commodities (MPIC) - Universiti Putra Malaysia (UPM) Bilateral Cooperation Programme, and funded by the Malaysian Timber Industry Development Fund. The project was implemented by UPM Consultancy and Services Sdn. Bhd., which appointed Professor Mohd. Basri Hamzah and Dr. Zahid Emby from UPM's Institute of Tropical Forestry and Forest Products (INTROP) and Faculty of Human Ecology respectively to lead the implementation team.

This document is intended to be used for carrying out social impact assessments (SIA) at a macro or landscape level for the State FMUs in Peninsular Malaysia. Such macro-level social impact assessments would normally be conducted as part of the process of the development or review of the forest management plan of the FMU. The results of the macro-level SIA carried out using this document will provide the overall picture of the communities likely to be affected by the forest management operations in the FMU, the key social impacts, recommended mitigation/enhancement measures and monitoring procedures. These information and measures will be supplemented at the operational level (forest licence level) by the Form *(Maklumat Kajian Impak Sosial Dalam Sektor Pembalakan)* currently used by the State Forestry Departments in monitoring the social impacts of the harvesting operations (pre-harvesting, during harvesting and post-harvesting).

This document places emphasis on two forest management operations, forest harvesting and forest conversion, which are considered to have the most significant social impact on the Orang Asli and local communities.

MTCC hopes that the availability of this document, and the experience gained in using it to conduct social impact assessments, will lead to future refinements and the development of similar documents which can be used by FMU managers in Sabah and Sarawak after incorporating suitable amendments to take into account the regional conditions.

MTCC wishes to record its appreciation to the other members of the Project Technical Committee (PTC) – Forestry Department Peninsular Malaysia (FDPM), Forest Research Institute Malaysia (FRIM) and Department of Orang Asli Development (JAKOA), as well as to the stakeholder groups, for their support and contribution to the project, which has resulted in the development of these guidelines and procedures.

CHEW LYE TENG
Chief Executive Officer
Malaysian Timber Certification Council

April 2012

ACKNOWLEDGEMENTS

The Consultants sincerely acknowledge the MPIC for funding the project which was mooted under the MPIC-UPM Bilateral Cooperation Programme, and the MTCC for proposing the project and supporting its implementation in cooperation with UPM.

Our appreciation to the members of the PTC for their valuable assistance and advice in the course of developing the Guidelines; the FDPM and JAKOA for extending cooperation, in particular their staff and officers in Perak and Pahang, in organising the fieldwork which provided the data that formed the basis for formulating the Guidelines.

Our warm gratitude is extended to the village heads, the Village Development and Security Committees (JKKK) involved in the in-depth interviews (IDIs) and focus group discussions (FGDs) in Gerik and Kuala Kangsar Forest Districts, Perak; and to the villagers involved in the survey, conducted in Kuantan, Jerantut and Kuala Lipis Forest Districts in Pahang. Thanks are also due to the project research assistants and enumerators who diligently assisted in the fieldwork.

Last but not least our thanks are also extended to INTROP for the general assistance, secretariat support and facilities rendered during the course of project implementation.

Project Consultants
Prof. Mohd. Basri Hamzah and Dr. Zahid Emby
Universiti Putra Malaysia

April 2012

ACRONYMS & ABBREVIATIONS

DOE	Department of Environment
EIA	Environmental Impact Assessment
FDPM	Forestry Department Peninsular Malaysia
FGD	Focus Group Discussion
FMP	Forest Management Plan
FMU	Forest Management Unit
HCV	High Conservation Value
IDI	In-depth Interview
ISM	Social Institute of Malaysia
JKKK	Village Development and Security Committee
JAKOA	Department of Orang Asli Development
Km	Kilometer
MC&I	Malaysian Criteria and Indicators for Forest Management Certification
MPIC	Ministry of Plantation Industries and Commodities
MTCS	Malaysian Timber Certification Scheme
NGO	Non-governmental Organisation
PERHILITAN	Department of Wildlife and National Parks
PRF	Permanent Reserved Forest
RIL	Reduced Impact Logging
RM	Ringgit Malaysia
SFD	State Forestry Department
SIA	Social Impact Assessment
SMP	Social Management Plan
STD	Sexually Transmited Disease
MTCC	Malaysian Timber Certification Council
UPM	Universiti Putra Malaysia
INTROP	Institute of Tropical Forestry and Forest Products

FOREWORD i

ACKNOWLEDGEMENTS iii

ACRONYMS & ABBREVIATIONS iv

CONTENTS v

1.0 INTRODUCTION
1.1 General Purpose of Social Impact Assessment (SIA) 1
1.2 Purpose of Guidelines and Procedures 1

2.0 CONTEXT
2.1 Linkages between Forest Management Operations and Orang Asli/Local Communities 3
2.2 Linkage of SIA to Forest Management Operations 3
2.3 Scope of SIA 4

3.0 THE SOCIAL IMPACT ASSESSMENT PROCESS
3.1 Introduction 5
3.2 Literature Search on the Communities 6
3.3 Selection of Communities to be Surveyed 6
3.4 Assessment Methodology 6
3.5 Stakeholder Participation 7

4.0 SOCIAL IMPACTS
4.1 Introduction 8
4.2 Identification of Key Social Impacts 8
4.2.1 Key Social Impact 1: Water Supply and Quality 9
4.2.2 Key Social Impact 2: Local Economy 9
4.2.3 Key Social Impact 3: Socio-cultural Life 10

5.0 MITIGATION AND ENHANCEMENT MEASURES
5.1 Introduction 12
5.2 Mitigation and Enhancement Measures 13
5.3 Multiple Impacts 15
5.4 Scheduling and Responsibilities 15
5.5 Incorporation of SIA Findings and Recommendations into the Forest Management Plan 15

6.0 MONITORING
6.1 Introduction 16
6.2 Compliance Monitoring 16
6.3 Impact Monitoring 18
6.4 Monitoring Techniques 19
6.5 Managing Unexpected Impacts 19

7.0 SOCIAL IMPACT ASSESSMENT REPORT FORMAT
7.1 Introduction 20
7.2 Executive Summary 20
7.3 Main Report 20
7.3.1 Initiator of SIA and Consultant 20
7.3.2 Baseline Socio-economic and Cultural Profile 20
7.3.3 Identification of Key Social Impacts 21
7.3.4 Mitigation and Enhancement Measures 21
7.3.5 Monitoring 21
7.3.6 Conclusion 21
7.3.7 References 21
7.3.8 Annexes 21

REFERENCES 22

FIGURE & TABLE
Figure 1 : SIA Process 5
Table 1 : Key Social Impacts and Mitigation/Enhancement Measures 13

ANNEXES
ANNEX A : Questionnaire for Interviewing Orang Asli/Local Community 23
ANNEX B : Protocol for In-depth Interview of Stakeholders 32

1.0 INTRODUCTION

1.1 General Purpose of Social Impact Assessment (SIA)

Social impact assessment (SIA) is defined as a process that first identifies, predicts, evaluates and communicates information concerning the adverse and beneficial impacts of a proposed policy, plan, programme, project or operation on the community. It then recommends mitigation measures to avoid or reduce the adverse social impacts besides recommending measures to enhance the beneficial impacts.

The SIA basically serves as a planning tool aimed at avoiding or minimising adverse social impacts and maximising beneficial impacts. It is essentially a preventive process seeking to avoid mistakes which can be costly from the social viewpoint. The identified social impacts, mitigation and enhancement measures and monitoring procedures are embodied in a Social Management Plan (SMP). The SMP therefore contains the measures to be implemented for the different stages of the implementation of the policy, plan, program, project or operation, in order to enhance positive outcomes and avoid or minimise the adverse impacts that may arise. In the case of forest operations, the functions of the SMP can effectively be achieved through incorporation of its key elements into the Forest Management Plan (FMP). These can be identified from findings of the SIA.

Evaluation of social impact is stipulated as one of the requirements in the Malaysian Criteria and Indicators for Forest Management Certification (MC&I) for the certification of a Forest Management Unit (FMU) under the MTCS. It should be noted that the macro-level environmental impact assessment (EIA) of an FMU in Peninsular Malaysia also incorporates a SIA.

1.2 Purpose of Guidelines and Procedures

There is currently no official SIA handbook or general guidelines for SIA issued by any government agency as the requirement for SIA has not been specified under any existing Malaysian law. There is only a semi-official introduction to SIA published by the Social Institute of Malaysia (ISM), a booklet entitled *Pengenalan Ringkas SIA: Penilaian Impak Sosial* (Brief Introduction to SIA: Social Impact Assessment). However the general guidelines for EIA issued by the Department of Environment (DOE) in the Handbook of EIA Guidelines and a DOE booklet entitled Environmental Impact Assessments (EIA): Procedures and Requirements in Malaysia 2007 also deal with SIA.

As general guidelines, the above documents are considered to be inadequate for evaluating the social impacts of forest operations.

The purpose of these guidelines and procedures, which are meant to be applied in the Permanent Reserved Forest (PRF) in Peninsular Malaysia, covering forest operations, mainly forest harvesting and conversion activities, are to provide guidance on the following key steps in the SIA :

a. Assessment and prediction of potential social impacts that may affect Orang Asli/local communities as a result of the implementation of forest management operations in the FMU;
b. Recommendation of mitigation measures to avoid or minimize adverse social impacts which may occur during and after implementation of such operations;
c. Recommendation of measures to enhance the potential beneficial social impacts of forest operations; and
d. Development of a monitoring programme to evaluate the mitigation/enhancement measures after their implementation.

2.0 CONTEXT

2.1 Linkages between Forest Management Operations and Orang Asli/Local Communities

2.1.1 Among the forest management activities, forest harvesting constitutes the most important operation in terms of impacting the surrounding environment. In view of this, forest harvesting activities within PRFs are required to comply with the requirements such as Reduced Impact Logging (RIL) in order to minimize such impacts.

2.1.2 The other forest activity that has strong impact on the surrounding environment is conversion of natural forest into forest plantation or non-forest land uses. In this operation the designated area is clear-felled and the residual vegetation removed completely, exposing the mineral soil in the process of site preparation. This is in contrast to forest harvesting under the Selective Management System (SMS) where residual stands are retained and rehabilitated after harvesting operations. If control is lax in forest conversion operations, the associated river system may eventually become silted, with inevitable negative social and environmental impacts on the downstream riverine communities.

2.1.3 Orang Asli villages can be found within or adjacent to the PRFs while local communities can be found on the fringes of the PRFs. The Orang Asli communities may be using the PRFs for settlement, subsistence economic activities and socio-cultural purposes. These include collecting minor forest produce, hunting, fruit orchards and burial grounds. The Orang Asli and other local communities may depend on hill water supply from PRFs for home consumption and agricultural purposes.

2.1.4 Forest harvesting or conversion activities in the PRF may bring positive impacts such as employment and income generation. It may also generate negative impacts including disturbance, damage/loss of fruit orchards, farming area, burial grounds and pollution of river water used for drinking, cooking, bathing and washing.

2.2 Linkage of SIA to Forest Management Operations

The importance of SIA in forest management operations is recognized by the MC&I, specifically its Criteria 4.4 and 8.1. **Criterion 4.4** stipulates the requirement for the FMU manager to conduct an assessment/evaluation of social impacts of forest management operations on the communities directly affected by the operations. Results of the assessment are to be incorporated in the preparation of the FMP. In addition, the standard prescribes the need for monitoring procedures for assessing these impacts **(Criterion 8.1).**

Criterion 4.4 : Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups directly affected by management operations.

Indicator 4.4.1 : Forest managers should evaluate, through consultations, social impact of forest operations directly affecting communities, and the people and groups directly affected by the forest operations should have access to information on the results of the social impact evaluations.

Indicator 4.4.2 : Forest planning and management practices should consider and incorporate the results of such evaluations.

Criterion 8.1 : The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.

Indicator 8.1.1 : Forest managers should comply with the regulatory monitoring procedures in accordance with relevant national and regional guidelines of the Forestry Departments and other relevant agencies.

Indicator 8.1.2 : Forest managers should identify and implement appropriate monitoring procedures, in accordance with the scale and intensity of the forest management operations, for assessing social, ecological, environmental and economic impacts.

2.3 Scope of SIA

In these guidelines, the scope of the SIA is in the context of the compliance of the FMU concerned to the requirements of the MC&I vis-à-vis the social impacts of forest operations.

3.0 THE SOCIAL IMPACT ASSESSMENT PROCESS

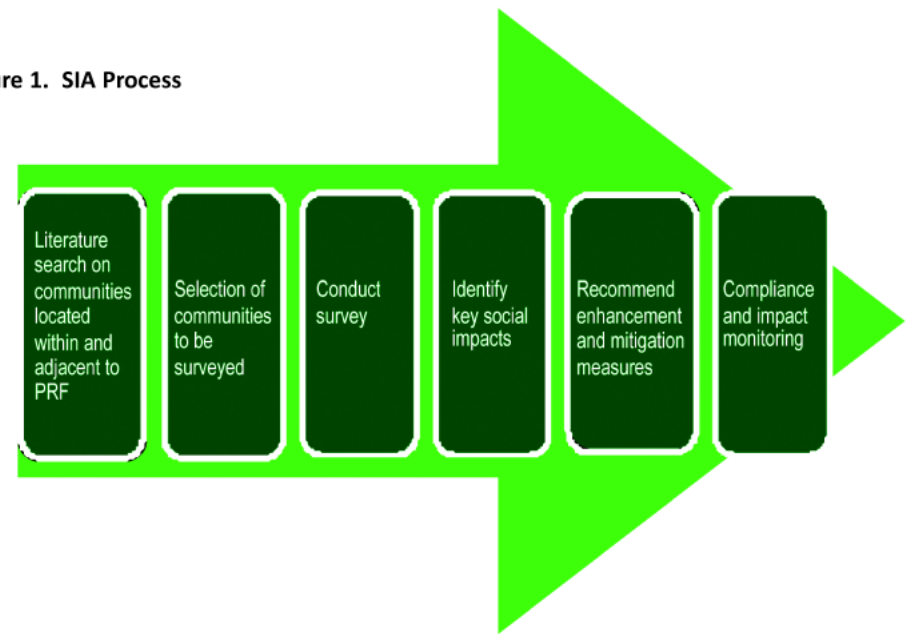
3.1 Introduction

In line with the identified scope under section 2.3, the process of conducting a SIA begins with a literature search to gather information on the number of Orang Asli/local communities located within and adjacent to the PRF, i.e. their background , socio-economic and cultural profiles and community infrastructure. This is followed by the assessment of these communities. The number of communities to be assessed for a particular FMU is randomly selected. A questionnaire (see sample in **Annex A**) is then used to carry out a survey which will provide the data necessary for the social impact assessment. From the analysis of the data collected, the baseline data for the sampled communities is then created. Based on these findings, the key social impacts will be identified, and mitigation and enhancement measures will be formulated, together with the compliance and impact monitoring of these measures.

The SIA process is summarized below and is shown in Figure 1:

i. Literature search on communities located within and adjacent to PRF
   a. Number and location
   b. Background
   c. Socio-economic and cultural profile
   d. Community infrastructure
ii. Selection of communities to be surveyed
iii. Conduct survey including interview or meeting with the communities
iv. Analyse data to identify key social impacts
v. Identification and prescription of mitigation and enhancement measures
vi. Compliance and impact monitoring of mitigation/enhancement measures
vii. Managing unexpected impacts

Figure 1. SIA Process



3.2 Literature Search on the Communities

A literature search on the communities located within and adjacent to the PRF, and therefore that are liable to be affected by the forest management operations, is conducted using secondary sources such as published and unpublished official reports, books, articles, research reports and internet sources. If secondary data on the communities are not available a baseline assessment on them will be carried out. This information, among others, covers the following aspects:

- Number and location of Orang Asli/local communities within and adjacent to the PRF. The information shall be provided in the form of a map.
- Background information on the communities.
- Socio-economic/cultural profile of the communities.
- Land use surrounding the PRF.

3.3 Selection of Communities to be Surveyed

It may not be possible due to logistical constraints, namely time limitation and distance, for all the communities settled within and adjacent to the PRF to be surveyed. As such the assessors will have to randomly sample the communities involved, based on the formula $y=\sqrt{x}$ where y is the number of communities to be surveyed, and x is the total number of communities. The sample should include the communities that are most likely to be affected by the forest operations.The views of the Department of Orang Asli Development (JAKOA) and other relevant stakeholders should also be sought as part of the selection process.

For the survey, the respondents in each selected community should constitute:

- The head of the community (Batin/Penghulu/Ketua Kampung).
- At least 10% of the total number of household heads or their spouses or five household heads/spouses (whichever is higher) based on random sampling.

3.4 Assessment Methodology

In assessing the social impacts resulting from forest harvesting or conversion, the following techniques of gathering baseline data may be used:

- **Quantitative method**: Data is gathered through the social survey using a questionnaire as an instrument in the quantitative approach. In the case of conducting the SIA the assessors can gather the required data through the use of a closed-ended, structured questionnaire (**Annex A**). This technique is normally utilized to gather information in either (i) large communities or (ii) numerous small communities scattered over a large geographical area. In this case the questionnaire is used to gather data in Orang Asli and local communities.

- **Qualitative method**: Data can be gathered through observations, in-depth interviews (IDI), Focus Group Discussions (FGD) and Nominal Group Technique (NGT) using the interview and observation protocols as instruments. This technique is usually used to gather data in small communities or groups covering a small geographical area. An example of a protocol for the IDI and FGD is given in **Annex B**.

- In the case of SIA of forest management operations the quantitative technique (i.e. using questionnaire) should be used in assessing the Orang Asli/local communities, supplemented with interviews (i.e. using IDI protocol) of relevant stakeholders which have information on the FMU concerned.

Aspects that should be included in the baseline data collection are listed below and further elaborated in **Annex A.**

- Community infrastructure and services.
- Socio-economic profile of community members.
- Social impact on water supply and quality, local economy and socio-cultural life.

Based on the results of the assessment, the scale and extent of the key social impacts on the community concerned by the forest harvesting or conversion activities in the FMU are determined.

The key social impacts which are normally associated with these activities are the following:

- Impact on water supply and quality.
- Impact on local economy.
- Impact on socio-cultural life.

The findings of the assessment are then analysed and documented in the SIA report, which shall highlight the following information:

- The communities potentially at risk are identified.
- Locations of respondents' settlements shall be shown on maps [with global positioning system (GPS) readings].
- Photographs to support the assessment data.
- The key social impacts are identified.
- Measures to mitigate the adverse impacts or to enhance the beneficial impacts are identified.
- The monitoring programme is formulated.

3.5 Stakeholder Participation

The Orang Asli and the local community are the major stakeholders affected by forest operations in the PRF. In addition, other parties that are possible relevant stakeholders are as follows:

- Licensees/contractors
- Forest workers (state forest department/licensee/contractors)
- Relevant government agencies/departments such as JAKOA, Health Department, Ministry of Rural and Regional Development (KKLW), Public Works Department (JKR), Ministry of Education (KPM), Department of Wildlife and National Parks (PERHILITAN)
- Relevant social NGOs such as Orang Asli Association of Peninsular Malaysia (POASM), Center for Orang Asli Concerns (COAC), Jaringan Kampung Orang Asli Semenanjung Malaysia (JKOASM), Yayasan Orang Asli Perak (YOAP)
- Relevant environmental NGOs such as Malaysian Nature Society (MNS), Worldwide Fund for Nature (WWF) Malaysia

While conducting the SIA, in addition to the Orang Asli and local community, other relevant stakeholders as listed above should also be consulted in the process of identifying the key social impacts of forest operations in the FMU. Views from the stakeholders consulted regarding the measures to mitigate adverse social impacts and enhance the beneficial social impacts, should also be taken into account and incorporated into the SIA report.

4.0 SOCIAL IMPACTS

WHAT ARE THE KEY SOCIAL IMPACTS?		
STEPS	**ACTIVITIES**	**ISSUES**
Step 1	Assessment of impacts	Key social impacts include: • Impact on water supply and quality • Impact on local economy • Impact on socio-cultural life
Step 2	Mitigation/enhancement measures	Key mitigation/enhancement measures include: • Conduct pre-harvesting consultations with affected community. • Ensure that RIL/EIA measures are effectively implemented. • FMU manager to closely cooperate with relevant agencies and stakeholder groups conducting training programmes for community.
Step 3	Monitoring	Social monitoring includes: • Compliance monitoring • Impact monitoring

4.1 Introduction

This section prescribes the way to identify and prioritise the key social impacts that need to be addressed.

4.2 Identification of Key Social Impacts

The key social impacts shall be identified based on the findings of the survey. The key impacts are likely to be related to water supply and quality, local economy and socio-cultural life.

The river is the most important source of potable water supply and water for domestic use in bathing and washing.

Forests play an important role in the local economy through the provision of employment from forest operations as well as income generation from forest produce, harvesting and services.

In addition, aspects of local socio-cultural life which are affected by forest operations include increased accessibility of the forest, safety and health, traditional knowledge and skills, sanctity of cultural, historical and archaeological sites, aesthetics of the surrounding environment and general social health.

4.2.1 Key Social Impact 1: Water Supply and Quality

- **Community water supply**: Harvesting of forest stands that serve as catchment to gravity-fed system will increase sediment loads and degrade the quality of drinking water due to siltation. Besides the lowered water pressure, the other usual complaints about water supply from villagers living close to forest harvesting or conversion areas is the turbidity of the water they use for drinking and cooking as well as other domestic uses such as bathing and washing. The water also has an unpleasant odour and taste. This in turn leads to health problems such as skin diseases and other water pollution related diseases.

- **River water quality**: Adverse impact of forest harvesting or conversion activities may also be in the form of pollution and decreased volume of river water which contributes to declining aquatic life particularly fish, as well as threatening aquaculture. Water for farming (rice, vegetables) is affected by clogging of the irrigation system. There is also the hazard of flooding caused by increased water run-off during storm events.

4.2.2 Key Social Impact 2: Local Economy

- **Adverse impacts**

➢ **Forest resources**: Depletion of nearby forest resources forces Orang Asli communities to go deeper and further into the forest to obtain the forest resources (petai, honey, rattan, building materials and medicinal plants) to maintain their livelihood, making their life more difficult. Forest roads facilitate the entry of outsiders looking for forest produce, thereby increasing the number of people collecting the resources and thus contributing further to its depletion.

➢ **Occupation and income**: The depletion of forest produce could lead to a decrease in forest-related occupations (main and secondary) such as hunting and gathering for forest and river produce (flora and fauna). This decrease could also be the result of competition with outsiders whose accessibility to the forest has improved as a result of the forest roads. This reduces the family income of the Orang Asli community.

➢ **Landscape aesthetics:** Adverse impacts resulting from harvesting or conversion activities include landscape degradation due to excessive damage to natural vegetation cover and proliferation of secondary vegetation (resulting in reduction of aesthetic values) and clogging of rivers with harvesting debris as well as river siltation (resulting in degradation or loss of water recreation sites). These adverse impacts on the landscape aesthetics may affect the potential of the natural forest as an ecotourism product.

- **Beneficial impacts**

➢ **New job opportunities:** New jobs comprise those which are related to forest management operations, off-forest jobs and ecotourism.

- **Forest management operations**: Jobs such as tree tagging, boundary marking, felling, bucking, timber cabling and tractor driving are possible new jobs for the community. Other opportunities include nursery jobs, supply and planting of seedlings, supply of provisions to logging camps and as porters.

- **Off-forest jobs**: There are also opportunities for non-forest jobs resulting from the improved accessibility, which facilitates job seeking beyond the forest, such as in neighbouring oil palm or rubber plantations.
- **Ecotourism**: Ecotourism activities may also be created as a result of the improvement in the accessibility due to the presence of forest roads. Nature tourism activities such as trekking, kayaking, motivation camps, homestay, camping and outdoor recreation may be possible, thus providing business or employment opportunities to the community.

➢ **General local development**: Forest operations can catalyse development on a local scale. Accessibility is usually a precursor to local development, enabling systematic development by government and the private sector (such as infrastructure, schools, clinics and sundry shops).

- **Forest roads**: Roads (mainly primary ones) that have been decommissioned can be upgradedto serve as the main access.
- **Vehicular access**: Vehicular access results in greater movement of people and goods leading to an increase in economic activity.
- **Access to external services**: Hitherto isolated communities now have better access to government and services (such as clinics, mobile medical services, schools and agricultural services) thus improving their living standards.

4.2.3 Key Social Impact 3: Socio-cultural Life

- **Adverse impacts**

➢ **Health and safety**

- **Infectious diseases**: Forest operations may result in possible afflictions due to water pollution (such as skin diseases/itchiness, diarrhoea, vomiting), dirt and dust during dry seasons (like bronchial afflictions and coughs). Diseases such as pulmonary tuberculosis (TB) and sexually transmitted diseases (STD) are attributed to contacts with forest workers.
- **Wildlife disturbances**: The opening of the forest canopy due to forest operations often results in lush regrowth which attracts the herbivores and in their wake, the carnivores. The presence of these wildlife may lead to increased disturbances to community life.

➢ **Traditional knowledge and skills of Orang Asli community**

- **Forest-based knowledge**: There is a decrease in traditional and forest-based knowledge and skills (such as herb identification and use, hunting/trekking and fishing skills) among the younger generation in the Orang Asli community due to reduction in their practice as a result of resources being less accessible, decreasing interest as well as the availability of alternative sources of income.
- **Knowledge on handicrafts**: Reduction in materials has led to a diminishing practice in the art of making traditional handicrafts such as fish/animal traps and musical instruments.

➢ **Use of traditional knowledge and compensation**: The traditional knowledge of the community on herbs, languages and the arts, as well as skills in hunting and fishing, which has been studied by researchers or acquired by outsiders is generally not compensated.

➢ **Historical and cultural sites (including sacred areas)**: Such sites are at times destroyed or degraded unintentionally through forest operations. These may also include sites of potential archaeological significance. Such sites may be in the form of graves, *saka*/ancestral areas and rock/ monolithic formations.

➢ **Road-related safety and health**: Road safety is affected by traffic of logging lorries, road construction and repair. In addition, damage to village roads resulting from timber haulage also endangers the safety of road users. Further, increase in dust during the dry season, and muddy, slippery roads during the wet season affect road safety. Noise from logging vehicles using the road is another impact that the community has to cope with. These impacts are especially felt by the communities in cases where the logging roads are passing through and near to their villages.

- **Beneficial impacts**

➢ **New knowledge and skills**: The community acquires new knowledge and skills related to forest management operations such as felling, planting, tractor driving, nursery works, inventory and surveying. As a result of the existence of forest roads, local people find it easier to go out and acquire new knowledge and skills by attending training programmes organized by various government agencies and the private sector.

➢ **New values and ethics**: Interactions with outsiders may bring positive values and ethics such as on work and outlook.

5.0 MITIGATION AND ENHANCEMENT MEASURES

WHAT ARE THE KEY MITIGATION AND ENHANCEMENT MEASURES?		
STEPS	**ACTIVITIES**	**ISSUES**
Step 1	Assessment of impacts	Key social impacts include: • Impact on water supply and quality • Impact on local economy • Impact on socio-cultural life
Step 2	Mitigation and enhancement measures	Key mitigation/enhancement measures include: • Conduct pre-harvesting consultations with affected community. • Ensure that RIL/EIA measures are effectively implemented. • FMU manager to closely cooperate with relevant agencies and stakeholder groups in conducting training programmes for community.
Step 3	Monitoring	Social monitoring includes: • Compliance monitoring • Impact monitoring

5.1 Introduction

This section is designed to assist in determining the possible preventive, remedial, compensatory and enhancement measures for each of the key adverse/beneficial impacts. Mitigation and enhancement measures will consist of related actions, which are aimed at ensuring effective management and control of site or operational activities. Mitigation and enhancement measures should be site-specific and based on the results of the assessment. To be effective and implementable, the mitigation/enhancement measures recommended should be practical and easy to monitor.

Elements needing mitigation/enhancement measures identified in the three key social impacts are listed below:

- Water supply and quality
- Forest resources
- Occupation and income
- Landscape aesthetics
- New job opportunities

- Health and safety
- Traditional knowledge and skills of Orang Asli community
- Historical and cultural sites
- Road-related safety and health
- New knowledge and skills

5.2 Mitigation and Enhancement Measures

Recommended mitigation and enhancement measures relating to the elements identified in the three key social impacts due to forest operations are summarised in **Table 1**.

TABLE 1. KEY SOCIAL IMPACTS AND MITIGATION / ENHANCEMENT MEASURES

NO	KEY SOCIAL IMPACTS	MITIGATION / ENHANCEMENT MEASURES
1.	***Water supply and quality***	■ Conduct pre-harvesting consultations with affected community to identify hill water intake points to ensure that local water supply and quality are not adversely affected. ■ Ensure RIL/EIA measures are effectively implemented specifically in relation to water sources and intake points.
2.	***Local economy***	
	• **Forest resources**	■ Ensure all measures to conserve and protect forest resources are complied with as per the requirements set out in the RIL, EIA and MC&I. ■ Stricter enforcement on access to PRF by non-authorised persons.
	• **Occupation and income**	■ Ensure all measures to conserve and protect forest resources are complied with as per the requirements set out in the RIL, EIA and MC&I. ■ Stricter enforcement on access to PRF by non-authorised persons. ■ FMU manager should encourage employers to provide employment opportunities to local community.
	• **Landscape aesthetics**	■ Forest areas identified as having High Conservation Value (HCV) attributes, aesthetic and tourism values are not to be logged and appropriate buffer zones should be established.
	• **New job opportunities and general local development**	■ The relevant agencies, in collaboration with the FMU management, should ensure adequate and permanent access for external services (such as medical and agricultural) to benefit the Orang Asli community.

NO	KEY SOCIAL IMPACTS	MITIGATION / ENHANCEMENT MEASURES
3.	***Socio-cultural life***	
	• **Health and safety**	■ FMU manager to closely cooperate with the licence holder, JAKOA, Health Department and JKKK to take measures to minimise impacts of forest operations on the health of the community; e.g. safeguarding water quality to prevent water-related ailments and reducing dust pollution associated with coughing and eye diseases. In order to protect the community from spread of communicable diseases from forest workers, FMU manager and licence holder should ensure that such threats are minimized. ■ FMU manager to work closely with PERHILITAN in monitoring wildlife in the PRF and take preventive measures to reduce wildlife disturbances.
	• **Traditional knowledge and skills, their use and compensation**	■ Ensure all measures to conserve and protect forest resources are complied with as per the requirements set out in the RIL, EIA and MC&I. ■ FMU manager to make available relevant sections of SIA reports to JAKOA and other relevant government agencies as well as NGOs to enable them to conduct programmes to preserve traditional knowledge and skills of Orang Asli community and to document the use of their traditional knowledge for purposes of fair compensation.
	• **Historical and cultural sites**	■ FMU manager to consult closely with the community in the identification and protection of sites of cultural, historical and archaeological significance as per the MC&I.
	• **Road-related safety and health**	■ FMU manager to monitor the conditions of forest roads through regular maintenance, in cooperation with the licence holders.
	• **New knowledge and skills, new values and ethics**	■ Orang Asli/local community to be given the opportunity and priority to gain new skills related to forest operations. They may also be encouraged to adopt new values and ethics related to work.

5.3 Multiple Impacts

In an assessment, an area that is expected to suffer multiple impacts should be given more attention than an area with a single impact. If forest operations in a certain licence area is expected to impact the surrounding communities in more than one aspect then this should be highlighted in the assessment and taken into account in designing the mitigation/enhancement measures.

5.4 Scheduling and Responsibilities

Forest harvesting or conversion activities in the PRF are carried out in numerous areas at the district level. Therefore the mitigation/enhancement measures have to be identified and managed at this level. The overall responsibility to plan and implement the mitigation/enhancement measures shall rest with the FMU manager.

5.5 Incorporation of SIA Findings and Recommendations into the Forest Management Plan

The relevant findings and recommendations of the SIA report comprising the identified key social impacts, mitigation/enhancement measures and monitoring procedures shall be incorporated into the FMP and implemented by the FMU manager.

In implementing these mitigation measures, appropriate mechanisms should be put in place to resolve conflicts including provision for fair and equitable compensation, on a case by case basis.

6.0 MONITORING

WHAT TYPE OF MONITORING IS REQUIRED?		
STEPS	**ACTIVITIES**	**ISSUES**
Step 1	Assessment of impacts	Key social impacts include: • Impact on water supply and quality • Impact on local economy • Impact on socio-cultural life
Step 2	Mitigation and enhancement measures	Key mitigation/enhancement measures include: • Conduct pre-harvesting consultations with affected community. • Ensure that RIL/EIA measures are effectively implemented. • FMU manager to closely cooperate with relevant agencies and stakeholder groups in conducting training programmes for community.
Step 3	Monitoring	Social monitoring includes: • Compliance monitoring • Impact monitoring

6.1 Introduction

This section elaborates the following:

- Compliance monitoring to ensure compliance with the recommended mitigation/enhancement measures.
- Impact monitoring of relevant key social impacts after forest harvesting or conversion activities to evaluate the effectiveness of the mitigation/enhancement measures.

6.2 Compliance Monitoring

As the social impacts of forest harvesting or conversion activities generally became addarent over a period of time, the monitoring of compliance with the mitigation/enhancement measures is essential and must be accorded high priority by the FMU manager.

In monitoring compliance with mitigation/enhancement measures, relatively easy and economically viable methods of checking for compliance should be employed.

The following are examples of compliance monitoring requirements that could be considered in relation to the mitigation/enhancement measures.

A. Water supply and quality

Self-monitoring by FMU managers through evaluation of compliance of forest harvesting licence holders to RIL/EIA measures. Visits to randomly selected communities to obtain feedback regarding compliance with RIL/EIA requirements by licence holders.

B. Local economy

- **Forest resources**

➢ Self-monitoring by FMU manager through evaluation of compliance of licence holders to RIL, EIA and MC&I requirements in relation to measures for the conservation of forest resources.
➢ Assess response to measures preventing access to PRFs by non-authorised persons.
➢ Visits to randomly selected communities to obtain feedback regarding compliance with these requirements.

- **Occupation and income**

➢ Self-monitoring by FMU manager through evaluation of compliance of licence holders to RIL, EIA and MC&I requirements in relation to measures for the conservation of forest resources.
➢ Assess response to measures preventing access to PRFs by non-authorised persons.
➢ Obtain feedback from JAKOA to evaluate response of the Orang Asli community to training programmes on handicraft production and marketing.

- **Landscape aesthetics**

➢ Self-monitoring by FMU manager to ensure that forest areas with HCV attributes, aesthetic and tourism values are not logged and buffer zones are established.

- **New job opportunities and general local development**

➢ Obtain feedback from JAKOA, and other development agencies, regarding response of the Orang Asli/local community to efforts in encouraging them to take up new job opportunities; and to record benefits obtained from external services resulting from local development.

C. Socio-cultural life

- **Health and safety**

➢ Self-monitoring by FMU manager, in cooperation with relevant government agencies and the JKKK to assess effectiveness of measures taken to minimize negative impact of forest operations on the health of the community. FMU manager to cooperate with PERHILITAN in assessing effectiveness of preventive measures to reduce wildlife disturbances in the community.

- **Traditional knowledge and skills, their use and compensation in the Orang Asli community**

➢ Obtain feedback from JAKOA regarding local response on programmes to preserve traditional knowledge and skills of the community; and on payment of compensation for knowledge and skills used by outsiders.

- **Historical and cultural sites**

➢ Self-monitoring by FMU managers to ensure that sites with historical, cultural and archaeological significance are identified and protected during forest harvesting operations.

- **Road-related safety and health**

➢ Self-monitoring by FMU manager on the conditions of forest roads through regular maintenance, in cooperation with the licence holders.

- **New knowledge, skills, values and ethics**

➢ Obtain feedback from JAKOA regarding extent to which the Orang Asli has received information on new knowledge and skills, especially those related to forest operations, and encouragement on adoption of new values and ethics related to work.

6.3 Impact Monitoring

As follow up to the mitigation/enhancement measures taken by the FMU management the impact on the community need to be monitored in order to gauge their effectiveness.

The following are examples of such impact monitoring measures that can be undertaken.

A. Water supply and quality

- The main water quality parameter associated with forest harvesting or conversion activities in the PRF is the increase in total suspended solids, largely in the form of suspended sediments, which affects the community's potable water supply as well as river water for domestic use. Under normal circumstances the water quality is restored within 2-5 years after the harvesting activities have stopped.

Thus the water supply needs to be monitored in the following manner:

➢ FMU manager to monitor the quality of water supply to the community during the preparation of the closing report for each harvesting operation.
➢ FMU manager to monitor actions taken to improve water quality.

B. Local economy

- **Forest resources**

➢ Post-harvesting visit by the FMU manager to the community to assess and obtain feedback regarding the status of forest resources important to the community.

- **Occupation and income**

➢ Post-harvesting visits by FMU manager to the community to assess and obtain feedback regarding the effect of forest operations on the occupation and income of the community.

- **New job opportunities and general local development**

➢ Post-harvesting visit by the FMU manager, in cooperation with the relevant agencies, to the community to assess the uptake of new job opportunities by the community; and to record beneficial impacts on the Orang Asli/local community resulting from access to external services.

C. Socio-cultural life

- **Health and Safety**

➢ Post-harvesting visit by the FMU manager, in cooperation with the relevant agencies, to the community to assess the health of the community. Post-harvesting visit by FMU manager, in cooperation with PERHILITAN, to the community to assess the situation with regard to wildlife disturbances.

- **Traditional knowledge and skills, their use and compensation in the Orang Asli community**

➢ The FMU manager to obtain feedback from JAKOA on the response of the Orang Asli community to the training programmes, and on the use of their traditional knowledge and skills and compensation for such use.

- **Historical and cultural sites**

➢ The FMU manager to obtain feedback from JAKOA on the impact of forest harvesting operations on sites with historical, cultural and archaeological significance as identified.

- **Road-related safety and health**

➢ Field inspection by the FMU manager to assess impact of forest operations on road conditions in relation to road-related safety and health of the Orang Asli/local community.

- **New knowledge, skills, values and ethics**

➢ Obtain feedback from JAKOA regarding response of the community to opportunities for learning new skills, especially those related to forest operations; and record changes in attitude towards work resulting from interaction with outsiders.

6.4 Monitoring Techniques

The techniques listed below may be the primary means used in compliance and impact monitoring:

- **Photographs**. Photographs can be used as evidence of the implementation of the recommended mitigation/enhancement measures.
  When photographs are submitted as evidence for compliance and impact monitoring, the date and time the photographs were taken should also be recorded.
- **Field checks**. Post-harvesting field checks should be undertaken to ensure compliance with the mitigation/enhancement measures.
- **Reports from Orang Asli/local community**. Written or oral reports with substantiated evidence from Orang Asli/local community can assist in checking compliance with the mitigation/enhancement measures.
- **Satellite images**. Even though land-bound photography can be used to monitor mitigation/enhancement measures related to protecting local community water supply and nearby rivers used by the community, satellite imagery provides a quick way to conduct compliance monitoring of these measures.

6.5 Managing Unexpected Impacts

Monitoring shall also cover the monitoring of unexpected impacts, that is impacts not identified by the SIA report, which may occur during and after forest operations. If such unexpected impacts arise, additional mitigation and enhancement measures shall be developed, implemented and monitored.

7.0 SOCIAL IMPACT ASSESSMENT REPORT FORMAT

7.1 Introduction

The findings of an SIA of forest operations have to be presented in a clear and concise manner that can be easily understood by the FMU manager and staff who are required to implement them, as well as the affected parties. The usefulness of a SIA report is measured by how accurately the potential adverse and beneficial impacts are identified and how clearly their mitigation and enhancement measures are formulated to ensure effective implementation, prior to forest operations.

To facilitate the FMU manager's review of the findings, the following must be included in the SIA report:

- An Executive Summary of the SIA findings.
- A summary table of key social impacts, mitigation and enhancement measures as well as monitoring procedures.

7.2 Executive Summary

An Executive Summary is a brief and concise summary of the SIA findings and recommendations. The Executive Summary should be written in straight forward non-technical language to enable easy understanding by the FMU manager and staff as well as the affected parties.

The contents of the Executive Summary should generally include the following information:

- Name of the party undertaking the assessment.
- Key areas/aspects of the existing social environment where significant impacts are expected to occur.
- Key social impacts and proposed mitigation and enhancement measures.
- Compliance and impact monitoring procedures.
- Conclusions and recommendations of the SIA.

7.3 Main Report

7.3.1 Initiator of SIA and Consultant

- Initiator (FMU manager) – Name, address, contact number(s) of person(s) to whom may be referred to for information. List of all FMU staff involved in the assessment.
- SIA Consultant/Assessor (if any) – Name, address, contact number of person (normally the chief consultant/assessor) to whom may be referred to for information. List all consultants/assessors involved in the assessment.

7.3.2 Baseline Socio-economic and Cultural Profile

A description of the following elements will provide a clear picture of the baseline socio-economic and cultural profile of the communities which may be affected by the forest operations within the FMU. This will allow an accurate assessment of the likely social impacts that may arise due to these operations.

- Location of the community
- Background information on the community
- Community infrastructure
- Socio-economic and cultural profile of community members
- Land use surrounding the FMU

7.3.3 Identification of Key Social Impacts

- Impact on water supply and quality
- Impact on local economy
- Impact on socio-cultural life

7.3.4 Mitigation and Enhancement Measures

- Measures to mitigate adverse social impact on water supply and quality
- Measures to mitigate adverse social impact on local economy
- Measures to mitigate adverse social impact on socio-cultural life
- Measures to enhance beneficial impact on local economy
- Measures to enhance beneficial impact on socio-cultural life

7.3.5 Monitoring

- Compliance monitoring
- Impact monitoring

7.3.6 Conclusion

- Conclusions and recommendations of the SIA

7.3.7 References

- List of references

7.3.8 Annexes

- All information supportive of the main text of the SIA

REFERENCES

1. Anon., (1995). Handbook of EIA Guidelines (issued by the Director General of Environmental Quality)

2. Anon., (2002). Environmental Impact Assessment (EIA) Guidelines for Logging and Forest Clearance Activities January 2002 [State Environmental Conservation Department (ECD), Sabah, Malaysia].

3. Anon., (2006). A Comprehensive Guide for Social Impact Assessment (Centre for Good Governance).

4. Anon., (2007). Environmental Impact Assessments (EIA): Procedures and Requirements in Malaysia 2007 (a booklet issued by DOE).

5. Anon., (2009). RIL Operation Guide Book: Code of Practice for Forest Harvesting in Sabah, Malaysia.

6. Anon., (undated). Environmental Impact Assessment: Guidelines for Forestry (Published by Department of Environment).

7. Anon., (undated). *Pengenalan Ringkas SIA: Penilaian Impak Sosial* (Brief Introduction to SIA: Social Impact Assessment) (Published by ISM).

8. Jabatan Perhutanan Semenanjung Malaysia, (2010). *Garis Panduan Jalan Hutan* 2010 (Guidelines for Forest Roads 2010).

ANNEX A : Questionnaire for Interviewing Orang Asli/ Local Community

QUESTIONNAIRE FORM - A

TO BE ANSWERED BY TOK BATIN/PENGHULU/VILLAGE HEAD

Social Impact Assessment of Forest Management Operations

Village:..... Enumerator/Date..... . Reviewer/Date.....

Name of Tok Batin/Penghulu/Village Head:..... I.C. No.:.....

VILLAGE INFRASTRUCTURE

Note: You may tick more than one [1] answer.

1 Water supply

Please tick [/] the relevant information

No.	Items	Yes	No	No.	Items	Yes	No
1	Piped water (govt. water supply)	①	②	4	Well water (including tube well)	①	②
2	Community water supply (hill spring/gravity water)	①	②	5	Rain water	①	②
3	River water	①	②	6	Others (please state)	①	②

2 Electricity supply/Telephone

Please tick [/] the relevant information

No.	Items	Yes	No	No.	Items	Yes	No
1	Generator	①	②	5	Battery	①	②
2	Solar panel	①	②	6	Telephone – fixed line	①	②
3	Rural electricity supply (TNB)	①	②	7	Telephone - mobile	①	②
4	Mini hydro	①	②				

3 Community facilities

Please tick [/] the relevant information

No.	Items	Yes	No	No.	Items	Yes	No
1	Community hall	①	②	6	Clinic	①	②
2	Adat house	①	②	7	Playing court	①	②
3	Sewang stage	①	②	8	Playing field	①	②
4	School	①	②	9	Others (please state)	①	②
5	Kindergarten	①	②				

4 Place of worship

Please tick [/] the relevant information

No.	Items	Yes	No	No.	Items	Yes	No
1	Surau (small muslim prayer house)	①	②	4	Sacred areas	①	②
2	Mosque	①	②	5	Temple	①	②
3	Church	①	②	6	Others (please state)	①	②

5	**Road facilities** Please tick [/] the relevant information No. | Items | Yes | No | No. | Items | Yes | No 1 | Tar road | ① | ② | 5 | Others (please state) | ① | ② 2 | Crusher run road (Gravel road) | ① | ② | | | | | 3 | Laterite road | ① | ② | | | | | 4 | Track (Denai) | ① | ② | | | | |
6	**Nearest town: Name of town.....Distance.....km**

Prepared by:

Name : .....

Position : .....

Date : .....

Signature : .....

Person interviewed:

Name : .....

Position : .....

Date : .....

Signature : .....

QUESTIONNAIRE FORM - B

TO BE ANSWERED BY THE RESPONDENT

Social Impact Assessment of Forest Management Operations

Village:..... Enumerator/Date..... Reviewer/Date.....

	Name of Respondent:..... I.C. No.:.....	
1.0	**Socioeconomic Profile of Respondent**	
1.1	**Status of respondent** Head of household/Wife/Offspring/Others (please state)	
1.2	**Gender of Respondent:** 1. Male 2. Female	**Gender of Household Members:** 1. No. of male..... 2. No. of female.....
1.3	**Age of Respondent:** .....years	
1.4	**Ethnic group of respondent** 1. Orang Asli (please state sub ethnic group) ..... 2. Malay 3. Chinese	4. Indian 5. Others (please state) .....
1.5	**Religion of respondent** 1. Islam 2. Christianity 3. Buddhism	4. Hinduism 5. Animism 6. Others (please state) .....
1.6	**Marital status of respondent** 1. Single 2. Married	3. Widow 4. Widower 5. Divorced.....
1.7	**Occupation and work place of respondent** 1. Unemployed: Please tick [/] ..... 2. Employed: Please state job ..... 3. Place of work ..... 4. Distance to place of work (km)	**Employment status of household members** 1. Number of working household members ..... 2. Number of unemployed household members .....
1.8	**Income per month** Respondent: Total income RM.....	Household: Total income RM.....

1.9

Highest education level achieved:

Respondent

1. No formal education
2. Primary school
3. Secondary school
4. College
5. University
6. Others (please state)
   .....

Household:

1. Number of household members with no formal education .....
2. Number of household members who attended primary school .....
3. Number of household members who attended secondary school .....
4. Number of household members who attended college .....
5. Number of household members who attended university .....

1.10 **Mode of transport**

Please tick [/] in the appropriate spaces provided

No.	Items	Yes	No	No.	Items	Yes	No
1	Car	①	②	4	Boat	①	②
2	Motorcycle	①	②	5	Bicycle	①	②
3	Van	①	②	6	Others (please state)	①	②

1.11 **Main construction material used for dwelling**

Please tick [/] the relevant information

No.	Items	Yes	No
1	Concrete	①	②
2	Wooden	①	②
3	Bamboo	①	②
4	Others (please state).....	①	②

1.12 **Dependence on nearest permanent reserved forest for subsistence**

Please tick [/] in the appropriate spaces provided

No.	Items	Yes	No	No.	Items	Yes	No
1	Food source (game, fish, plants)	①	②	10	Grave sites	①	②
2	Bamboo	①	②	11	Sacred sites	①	②
3	Rattan	①	②	12	Recreational areas	①	②
4	Honey	①	②	13	Wood oil	①	②
5	Medicinal plants and herbs	①	②	14	Tree resins	①	②
6	Village/housing areas	①	②	15	Gaharu/Agarwood	①	②
7	Water supply source (drinking/bathing)	①	②	16	Others (please state)	①	②
8	Construction materials	①	②	17	Not dependent	①	②
9	Firewood	①	②				

Nearest Permanent Reserved Forest
Name: .....
Distance: ..... km

1.13 **Forest related economic activities of respondent and household members (in the last 12 months)**

Please tick [/] in the appropriate spaces provided

No.	Items	Yes	No	ANB*	No.	Items	Yes	No	ANB*
1	Rattan collection	①	②		8	Hunting	①	②	
2	Farming	①	②		9	Gaharu/Agarwood collection	①	②	
3	Forest-based homestay	①	②		10	Bamboo collection	①	②	
4	Medicinal herbs collection	①	②		11	Petai collection	①	②	
5	Honey collection	①	②		12	Shifting cultivation	①	②	
6	Tour guide	①	②		13	Collection of handicraft materials	①	②	
7	Fishing	①	②						

**ANB=Estimated Value RM/Month*

2.0 Social Impact of Forest Management Operation

Have logging activities occurred near your village?

- Please state yes/no .....
- If yes please state year of logging .....

2.1 Social Impact (water supply and quality)

2.1.1 Impact of logging on water supply

Please tick [/] in the spaces provided whether logging in forest reserves negatively affect water supply:

NN = Logging has no negative impact
N = Logging has negative impact

No.	Items	NN	N
1	Community drinking water supply		
	• Quality	①	②
	• Quantity	①	②
	• Source	①	②
2	Community water supply for bathing and washing		
	• Quality	①	②
	• Quantity	①	②
3	Water supply for agriculture	①	②
4	Water supply for fish rearing	①	②

2.1.2 Impact of logging on river water and transportation

Please tick [/] in the spaces provided whether logging in forest reserves negatively affect, or otherwise, on the following:

No.	Items	Yes	No	No.	Items	Yes	No
1	River depth	①	②	4	Frequency of river flooding	①	②
2	Siltation/murkiness of river water	①	②	5	Possibility of mud flood	①	②
3	Private river transport	①	②	6	River water pollution (by engine oil/diesel)	①	②

2.2 Social Impact (Local Economy)

2.2.1 Impact of logging on forest resources

Please tick [/] in the spaces provided whether logging negatively, or otherwise, affect supply of forest/river produce and ecotourism opportunities

NNA = Does not negatively affect
NA = Negatively affect

No.	Items	NNA	N
1	Supply of forest produce	①	②
2	Supply of river produce	①	②
3	Ecotourism activities	①	②

2.2.2 Impact of logging on job opportunities (salaried work/wage) for the Orang Asli/local community

Please tick [/] in the spaces provided whether logging in forest reserves provide job opportunities (as listed below) for the Orang Asli/local community

A = Agree
D = Disagree

No.	Items	A	D
1	Tree marking, tree felling, lorry driver's assistant, lorry driver, machinery operator, road construction	①	②
2	Forest inventory, nursery, enrichment planting	①	②

2.2.3 Impact of logging on traditional/new economic activities of the Orang Asli/local community

Please tick [/] in the spaces provided whether logging in forest reserves negatively affect the traditional/new economic activities of the Orang Asli/local community

NNA = Logging has no negative impact
NA = Logging has negative impact
LA = Logging is beneficial

No.	Items	NNA	NA	LA	No.	Items	NNA	NA	LA
1	Collecting forest herbs including medicinal herbs	①	②	③	10	Fishing and trapping/ collecting, other river resources (shrimps, frogs, *labi-labi*, terrapin's eggs, etc.)	①	②	③
2	Collecting gaharu/agarwood	①	②	③	11	Rearing caged river fish	①	②	③
3	Collecting rattan and bamboo	①	②	③	12	Collecting firewood and construction materials (wood, roofing materials, bamboo, etc.)	①	②	③
4	Collecting wild fruits (durian, petai, jering, kerdas, tampoi, etc.)	①	②	③	13	Collecting forest materials for making handicrafts	①	②	③
5	Collecting ornamental plants (orchids, creepers, ferns, etc.)	①	②	③	14	Farming	①	②	③
6	Collecting other food produce (wild vegetables, sago, grubs, insects, etc.)	①	②	③	15	Operating forest-based homestay	①	②	③
7	Hunting wild animals (deer, barking deer, wild boar, porcupine, monitor lizard, etc.)	①	②	③	16	Tour guide activities (ecotourism)			
8	Trapping birds	①	②	③					
9	Collecting honey	①	②	③					

2.2.4 Forest job vacancies

Please tick [/] in the spaces provided how information on forest job vacancies are made known/available to the Orang Asli/local community

No.	Items	(/)	No.	Items	(/)
1	Information on job vacancies directly conveyed by JAKOA and the Orang Asli community		4	Offers made by the logging contractors directly to the community.	
2	Offers made by the Forestry Department directly to the community.		5	Offers made to the community through third parties (friends, relatives, visiting traders, etc.)	
3	Offers directly informed by other government agencies (name the agencies)		6	Offers made through other means (name the agencies)	

2.3 Social Impact (socio-cultural life)

2.3.1 Logging roads have facilitated the Orang Asli/local community and outsiders as well as wildlife, to move in and out of the forest areas. This has resulted in changes as listed below

Please tick [/] in the spaces provided whether these changes are beneficial, or otherwise, for the community

B = The changes are beneficial; NB = The changes are not beneficial

No.	Items	B	NB	No.	Items	B	NB
1	Use of forest produce as well as activities like fishing, hunting and gaharu/agarwood collection by outsiders have increased	①	②	7	The opening of spaces due to logging road has resulted in lush regrowth which attracts animals (like elephants, wild boars and tigers)	①	②
2	Use of forest produce by the community has increased	①	②	8	The increase in logging activities has resulted in predators (tigers, clouded leopards) more frequently encountered near villages	①	②
3	Improved accessibility has allowed government departments and agencies (health, education, safety and security, development, etc.) to increase efforts to develop the community	①	②	9	Level of education has improved as a result of increased accessibility for the community	①	②
				10	Logging roads facilitate the local community's movement from village to village	①	②
4	Improved accessibility makes it easier for outsiders to enter the community resulting in an increase in social problems and crimes (such as alcohol and drug abuse, gambling and theft) among the community	①	②	11	Forest road construction facilitates the community to commute to their work place	①	②
5	Increase in marriages between community members and outsiders are good for the community	①	②				
6	Increase of accessibility by middlemen with higher purchasing power brings more benefits to local producers/suppliers	①	②				

2.3.2 Effect of logging on the comfort/safety/health of the Orang Asli/local community

Please tick [/] in the spaces provided whether logging negatively affect, or otherwise, the comfort/safety/health of the community

NNI = Logging has no negative impact; NI = Logging has negative impact

No.	Items	NNI	NI	No.	Items	NNI	NI
1	Condition of village roads	①	②	3	Air quality due to movement of logging vehicles and its relation to villagers' health particularly that of children and the aged	①	②
2	Safety of traffic on village roads and surrounding areas especially for school children	①	②				

Please tick [/] in the spaces provided regarding ailments/diseases which are linked to logging.
A = Agree: D = Disagree

No.	Items	A	D	No.	Items	A	D
1	Skin diseases	①	②	4	Coughs	①	②
2	Diarrheoa	①	②	5	Eye irritations	①	②
3	Vomiting	①	②	6	Allergies	①	②

2.3.3 **Effect of forest activities on indigenous knowledge and skills**

Please tick [/] in the spaces provided whether acquisition of knowledge/skills by outsiders benefits, or otherwise, the Orang Asli/local community.

B = Benefits Orang Asli/local community: NB = Does not benefit Orang Asli/ local community

No.	Items	B	NB
1	Acquisition of forest related knowledge and skills (traditional medicine, hunting, fishing, forest exploration, jungle trekking)by outsiders	①	②
2	Acquisition of knowledge and skills of the arts (handicraft, songs/singing, music, dancing) by outsiders	①	②

2.3.4 **Decline in traditional knowledge and skills of Orang Asli/local community due to impact of harvesting**

Please tick [/] in the spaces provided your opinion on the effect of logging in forest reserves on the following traditional knowledge/skills

NNA = Logging has no negative impact; NA = Logging has negative impact

No.	Items	NNA	NA
1	Skills in hunting and fishing	①	②
2	Knowledge on making products from forest produce (e.g. blowpipe poison from sap of the ipoh tree)	①	②
3	Knowledge on building traditional houses	①	②
4	Knowledge on making traditional handicrafts	①	②
5	Knowledge on medicinal plants	①	②

2.3.5 **Effect of forest activities on land used/owned by Orang Asli/local community**

Please tick [/] in the spaces provided to indicate your opinion on impact of logging on villagers' land

A = Agree: D = Disagree

No.	Statements	A	D
1	Ownership of traditional agricultural land (adat land) not affected	①	②
2	Roaming area not affected	①	②
3	Graveyard/grave sites not affected	①	②
4	Taboo/sacred areas not affected	①	②
5	Historical/Pre-historical areas not affected	①	②
6	Land affected should be compensated	①	②

2.3.6 **Skills related to forest harvesting in PRF**

What skills were acquired by the Orang Asli/local community through involvement in logging activities in the forest reserve?

Please tick [/] in the spaces provided.

No.	Items		No.	Items	
1	Felling skill		4	Skill in applying fertilisers in nurseries	
2	Skills in driving vehicles and operating machineries		5	Skill in applying pesticides in nurseries	
3	Skill in planting forest trees		6	Others (please specify)	

2.3.7 **Effect of forest activities on forest aesthetics**

Please tick [/] in the spaces provided to show your opinion regarding the effect of forest activities on forest aesthetics

MA = Mildly Affected : BA = Badly Affected

No.	Items	MA	BA
1	Effect of logging on forest landscape aesthetics in the village vicinity	①	②

Prepared by:

Name : .....

Position : .....

Date : .....

Signature : .....

Person interviewed:

Name : .....

Position : .....

Date : .....

Signature : .....

ANNEX B : Protocol for In-depth Interview of Stakeholders

IN-DEPTH INTERVIEW PROTOCOL FOR STAKEHOLDERS

1. To what extent has the water supply and quality in…….. *(name the relevant FMU)* been affected by forest harvesting/conversion activities in the PRF? *(Examples of impact: water source affected, murky/polluted and supply depleted.)* Please provide evidence. *(Examples of evidence: relevant documents such as EIA Report).*

2. To what extent are the rivers in…….. *(name the relevant PRF)* affected by forest harvesting/ conversion activities in the PRF? *(Examples of impact: river water silted, muddy, polluted (oil residues, etc.), shallow and prone to flooding.)* Please provide evidence. *(Examples of evidence: relevant documents such as EIA Report).*

3. Do forest harvesting/conversion activities in PRF result in the reduction in the source and total income of the Orang Asli/local community in……..? *(name the relevant PRF)*. If yes please provide evidence. *(Examples of evidence: complaints recorded from Orang Asli/local community, views and studies by related NGOs/universities and agencies).*

4. Do forest harvesting/conversion activities in the PRF result in the depletion of forest resources in ……..*(name the relevant PRF)*? If yes please provide evidence. *(Examples of evidence: complaints recorded from Orang Asli/local community, views and studies by related NGOs/ universities and agencies).*

5. Do the depletion of forest resources in…….. *(name the relevant PRF)* threaten the traditional knowledge/skills of the Orang Asli/local community? *[Examples of impacts: the decrease in number of local population with traditional knowledge/skills (such as customs, arts, herbal/ traditional medicine, hunting, handicraft)].* If yes, please provide evidence. (*Examples of evidence: reports and studies by related NGOs/universities and agencies).*

6. Do forest harvesting/conversion activities in……. *(name the relevant PRF)* result in the increase in social problems in the Orang Asli/local community? *(Examples of problems: alcohol addiction, gambling, STD.)* If yes, please provide evidence. *(Examples of evidence: complaints recorded from Orang Asli/local community, reports and studies by related NGOs/universities and agencies).*

7. Has the increase in accessibility to…….. *(name the relevant PRF)* through forest roads resulted in the traditional knowledge and skills of the Orang Asli/local community being acquired by outsiders? If so, has the community been fairly compensated for the use of such traditional knowledge and skills? *(Examples of traditional knowledge/skills: customs, arts, herbal/ traditional medicine, hunting, handicrafts.)* Please provide evidence. *(Examples of evidence: reports and studies by related NGOs/universities and agencies).*

8. Has the forest harvesting/conversion activities in…….. *(name the relevant PRF)* threatened landscape aesthetics? *(Examples of impacts: the opening of canopies, effects of road erosion, siltation of river water.)* If so, please provide evidence. *(Examples of evidence: complaints from Orang Asli/local community and the public,and views of NGOs).*

9. What are the positive impacts on the Orang Asli/local community in…….. *(name the relevant PRF)* due to forest harvesting/conversion activities in the PRF? *(Examples of positive impacts: job opportunities, new knowledge and skills, increase in health and education facilities.)* If yes, please provide evidence. *(Examples of evidence: reports and studies by related NGOs/universities and agencies).*

10. Besides the impacts stated above what additional social impacts have been experienced by the Orang Asli/local community in…….. *(name the relevant PRF)* due to forest harvesting/conversion activities in the PRF? Please state .....

Guidelines and Procedures for Social Impact Assessment and Monitoring of Forest Management Operations (Peninsular Malaysia)

UPM
UNIVERSITI PUTRA MALAYSIA

9 789834 442644