

**DRAFT TERMS OF REFERENCE (TOR) FOR A SPECIAL  
ENVIRONMENTAL IMPACT ASSESSMENT (SPECIAL-EIA)  
STUDY FOR  
THE PROPOSED LOGGING AT STATE LAND, XXX (896.2  
HECTARES) NEAR KG. XXX, XXX**

**PROJECT PROPONENT:**

**xxx  
Lot xx, Lorong Bunga Raja xx,  
Taman Bunga Raja  
88300 Kota Kinabalu  
Tel: xx, Fax: xx**

**EIA CONSULTANT**

**XXX.  
Lot xx, 1st Floor, xx,  
Penampang, Sabah,  
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Fax : 088 -xxx**

**June xx, 2000**

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## **1. INTRODUCTION**

This Term of Reference (TOR) is written to provide the conditions for the Environmental Impact Assessment (EIA) consultants, **xxx SDN BHD** hereinafter referred to as the “EIA Consultants”, to undertake Environmental Impact Assessment studies in a 896.2-hectare logging area hereinafter referred to as the “Project Area”, for the project proponent, **xxx** hereinafter referred to as the “Project Proponent” and the **ENVIRONMENT AND CONSERVATION DEPARTMENT, SABAH** hereinafter referred to as the “Government”

The Project Proponent intends to log the Project Area of approximately 896.2 hectares located in a State Land PTxxx (896.2 hectares) near Kg. xx, in the District of xx, Sabah.

By Enactment, logging operation is a prescribed activity under Schedule 2(i) of the Conservation of Environment Enactment 1996 (Prescribed Activities) Order 1999 and Schedule 6 (c) of the Section 34(A) of the Environmental Quality Act 1974 (Environmental Impact Assessment) Order 1987. Under these laws, any extraction or felling of timber covering an area of 500 hectares or more require an Environmental Impact Assessment (EIA) report.

By the Enactment, the Project Proponent is required to submit an EIA report to the Government for approval before commencing implementation of the project. By this report the relevant government authorities are able to monitor impact within the life span of the project on the immediate environment, so as to enable major stakeholders of the project including the Government to manage the environment for the well being of the community.

This TOR has been prepared based on the scoping result, field visits and information collected from both primary and secondary sources including information provided by the Project Proponent.

## **2. BACKGROUND INFORMATION**

### **2.1 Description of the Project**

#### **2.1.1 Name of Project**

The name of the project is “The Proposed Logging Activity at State Land, PTxx (896.2 hectares) in Kg. xx, xx, Sabah.

#### **2.1.2 Project Proponent**

The Project Proponent xxx whose address is:

xx

Lot xx, Lorong Bunga Raja xx,

Taman Bunga Raja, 88300 Kota Kinabalu, Sabah, Malaysia

Contact Person : Mr.xx  
Tel : 088-xx, 088-xx  
Fax : 088-xx  
Designation : Managing Director  
Company License No.: xxx Sdn.Bhd (xx-V)

### **2.1.3 Objective of the Project**

The objective of the project is to extract and sell residual timbers of commercial value to local sawmills from the said land.

### **2.1.4 Major Activities of the Project**

The major activities of the project are tree felling, road construction, repairs and upgrading of existing roads, constructions of log landings, skidding and trucking of logs. These activities will be carried out within a logged forest in a State Land with a size of approximately 896.2 hectares.

### **2.1.5 Detailed Description of the Project**

The project is to undertake logging activities, which include road construction, upgrading, repairing and maintenance of existing roads, cutting of residual timber, construction of log landings and skid trails, and skidding and trucking of logs. The logging activities will be carried out in an 896.2-hectare logged forest area located near Kg. xx in the xx District.

The Project Area is a state land in which logging activities had been conducted previously. The project therefore, will cut and extract all residual timbers of commercial value within the Project Area regardless of size and species.

The Project Proponent has obtained a Temporary Occupancy License (TOL) for the Project Area (PTxx). However, the local people residing at the downstream of the Project Area are protesting against the project. The local people are not in favor of the project as it poses pollution potential to the Sg. xx and Sg. xx, which serve as their main water supply for domestic consumption - drinking water, fishpond and agricultural activities.

The Project Area is approximately 896.2 hectares in size and situated between the Sabah Parks' forest which stretches from the north to south at the west of the Project Area and Kg. xx, xx and xx on the east. xx stream and its tributary, xx pass through the western tract of the Project Area and serve as the main water supply of Kampong xx. Sungai xx passes through the eastern tract of the Project Area and serve as the main water supply for Kg. xx. Due to this, the local people are concerned of the impacts of the project mainly on their water supply. A meeting that involved the Project Proponent, ECD, the EIA Consultants, Forestry Department, JPS, Jabatan Kesihatan, JKR, Sabah Parks and the local people was conducted on June 12, 2000 chaired by the District Officer (PPHT) on this issue.

The general physical feature of the Project Area is hilly with mountainous features of elevation ranging between 800 – 1050 m and is actually part of the Crocker Range. It consists of mainly logged forest with patches of small agricultural land clearings. The western part of the Project Area can be reached by an existing logging road at the south-western corner. There are at least two other logging operators xx and xx who

are actively logging adjacent to the western part of Project Area and using this same logging road to transport their logs. The eastern tract of the Project Area can be reached by a JKR road that links Kg. xx to the main xx-xx-xx highway in the east.

## **2.2 EIA Consultant**

Incorporated in Sabah in 1995, xxx SDN.BHD is powered by a team of consultants with proven track record of excellence focussing mainly on environmental management. It has undertaken numerous development projects since its inception for individual as well as corporate local and international clients, providing top-quality environmental impact assessments and environmental management plans.

xxx SDN.BHD works very closely with academic experts at University Malaysia Sabah and University Putra Malaysia. It is also affiliated to the Asia Pacific Institute of Environmental Assessment (APIEA), which is supported internationally for promoting and establishing the best practice standards in Environmental Management Systems, Environmental Impact Assessments and Environmental Auditing. xxx SDN.BHD is registered as an EIA Consultant with the Federal Department of Environment.

The EIA requirement for all forestry and related agricultural activities has been recently introduced in Sabah as a mandatory requirement that falls under the Conservation of Environment (Prescribed Activities) Order 1999. xxxSDN BHD is presently engaged in preparing four other EIA studies of similar nature.

### **2.2.1 Curriculum Vitae of Consultants**

Please refer to Appendix I

## **3.0 SCOPE OF WORK**

The scope of work for the EIA study shall at least involve the following 5 aspects:

1. To describe the context, components and activities of the project
2. To identify, and assess key adverse environmental impacts that may result from the activities of the project
3. To identify, assess and recommend appropriate and practical mitigation measures to remove or minimize the adverse environmental impacts identified
4. To identify, assess and recommend impact monitoring programs and compliance auditing programs.

After completion of the EIA study, the EIA consultant shall prepare the EIA report and undertake a presentation of the EIA report at the Environment Conservation Department.

The EIA study and preparation of the EIA report has to follow the structure outlined in the ECD Handbook for EIA in Sabah. Furthermore a note on logging activities in Sabah has been prepared by the Department and should be used as reference.

Below are listed a number of specific issues, based on the scoping phase, the EIA study has to include.

### **3.1 Assessment of project context, components and activities (ad 1)**

The EIA study shall include an assessment of the context, components and activities of the project. This includes among others:

- *Context*: Description and assessment of the *location* of the land viz a viz position in water catchments and proximity to the Crocker Range Park or other conservation/water catchment area, of the *land use characteristics*, including the planned use of the land after logging (e.g. remain as production forest) and description of the existing land use and their patterns within 3-km radius from the boundary of the Project Area and *project characteristics* (forest clearance/conversion process, logging activity)
- *Activities*: Description and assessment of the specific phases and activities; including timing and location, for: (i) *pre-logging (planning) phase* (road and landing layout and location), (ii) *construction phase* (base camp establishment, road construction, road repairs and upgrading); (iii) *logging operation phase* (landing construction, skid trails construction, felling, skidding; and (iv) *abandonment phase* (demolition of camp).

### **3.2 Assessment of key environmental impacts (ad 2)**

The following environmental impacts (3.2.1 to 3.2.2) are the key potential adverse impacts identified during the scoping phase. Assessment of these impacts will in the EIA study be done in detail. Other potential adverse impacts (3.2.3) - waste disposal, flora and fauna and dust - shall be assessed in less detail.

#### **3.2.1 Soil Erosion, Sedimentation and Water Pollution**

Logging activities (road construction, felling and extraction) are among the major contributors to soil erosion and sedimentation to the receiving watercourses. The following activities and assessment shall be undertaken:

- Status of water quality, especially TSS, and water uses of the river and streams found within the Project Area, e.g. gravity feed systems, fish ponds, potable water, shall be described and assessed
- The impact of soil erosion shall be determined and prediction of soil loss and erosion risk shall be made. Stream sedimentation shall be predicted based on the amount of soil eroded that reaches the stream. The assessment of the soil erosion, sedimentation and water quality impact shall be based on: (i) Description and assessment of existing topographical and physical characteristics of the project site (based on e.g. topographical maps and ground investigation), (ii) Description and assessment of the existing

geological and soils condition within the project site (based on e.g. on ground survey and soil maps available), (iii) Description and assessment of the drainage system within the project area (based on e.g. topographical maps and ground surveys). A river survey along sections of selected streams identified within the project area shall be carried out to determine stream channel dimension and the potential hydrological impact of the project particularly with respect to flooding

- The impact on water quality due to the construction of base camp and stamping area shall be assessed.

### **3.2.2 Social impacts**

Social impacts of the logging activities shall be determined through interviews with a representative number of people potential affected by the project activities (and quantification of answers), particularly with respect to problems related to the quality of water for domestic use.

### **3.2.3 Other impacts**

Furthermore the following three environmental impact has to be addressed in less detail:

- *Waste Disposal.* Waste generated from base camp and machinery (oil and grease) shall be assessed.
- *Flora and fauna.* The impacts on flora and faunal within the proposed area shall be assessed. This assessment shall mainly be carried through interview with local people and through information obtained from the wildlife and forestry authorities.
- *Dust Pollution.* Impact due to dust generated from logging activities especially trucking of logs during transportation on dirt roads particularly in dry season shall be assessed, particularly along village settlements.

It is the responsibility of the EIA consultant to include all significant environmental impact of the project. If therefore the EIA consultant during the EIA study finds any significant environmental impact of the project, these impacts has to be included in the EIA study.

### **3.3 Recommended Mitigation Measures (ad 3)**

The consultant shall explore the full range of possible mitigation measures, and appropriate mitigation and abatement measures to minimize and control the various impacts identified shall be studied and detailed recommendations concerning mitigation of the key adverse environmental impacts shall be given. Focus shall be given to the analysis and recommendation concerning the following key mitigation measures:

- Provision of riverine reserves. A detailed map of water courses (rivers, streams, etc.) has to be provided which includes a plan of intended riparian reserves

- Restriction of logging activities on slopes. A detailed slope map, which includes an identification of steep areas greater than 20 degree and a recommendation of steep areas subject for prohibition or restriction in the logging activities. The slope map may be derived form a 1:50.000 map scale, but a larger scale would be preferable
- Mitigation measures related to concerns raised by the local residents in the area surrounding the project areas.

The potential mitigation measures shall be discussed in detail with the Project Proponent from the view of practical implementation to ensure that the recommendations of the report will be implemented.

### **3.4 Key Monitoring Programs (ad 4)**

Since the biggest impact of the project will be on water quality, compliance monitoring shall be conducted before and during project development, operation and abandonment. The proposed monitoring programme has to link closely to the recommended mitigation measures. Focus shall be given to the analysis and recommendation concerning the following key compliance monitoring programmes:

- Assessment and recommendation concerning compliance monitoring of the provision of riverine reserves. Use of detailed map of water courses (rivers, streams, etc.) and riparian reserves, use of photographs/aerial photos/remote sensing, timing, location, etc. has to be considered and recommended upon
- Assessment and recommendation concerning compliance monitoring of the restriction of logging activities on slopes. Use of slope map and identified steep areas, use of photographs/aerial photos/remote sensing, timing, location, etc. has to be considered and recommended upon
- Assessment and recommendation concerning compliance monitoring of the socio-economic impact related to the concerns raised by the local residents in the area surrounding the project areas.

Recommendation for timing, location, costs and responsibilities concerning the monitoring programmes shall be given.

Impact monitoring concerning water quality shall only be recommended in clear linkages between the project impact on the water quality and the actual water quality can be established. If so, locations of monitoring stations, types of parameters to be monitored, timing, cost and responsibilities shall be given.

## **4.0 WORK SCHEDULE**

The EIA report for the proposed logging activity shall be completed within a period of seven (7) weeks from the time of TOR approval.



Research Activities	TIME (WEEK)								
			1	2	3	4	5	6	7
Preparation and submission of proposal	■								
Approval of proposal and signing of Agreement		■							
TOR preparation, Public hearing and Approval			■						
Information gathering			■	■					
Site survey (Collection of Samples)			■	■					
Biological Survey (Hold dialogue with community and interview)			■	■	■				
Human Environment survey (Hold dialogue with community and interview)			■	■	■				
Impact assessment and Mitigation Measures			■	■	■	■	■	■	■
Report write-up			■	■	■	■	■	■	■
Submission of draft report to project proponent									■
Submission report to DOEC									■
EIA Presentation									■

## 5.0 PROJECT ORGANISATION AND MANAGEMENT

The EIA study will be lead by a Project Director assisted by Project, Research and Corporate Managers with the following duties and responsibilities: *Project Director*: Appoint team members, outline the terms of reference for each personnel, provide the final decision in respect of the study activities and results. He plays a major role in all aspects of the EIA study. *Project Manager*: Undertake and coordinate the respective field studies and environmental baseline data collection; coordinate and organize discussions and meetings, and contribute in the environmental management aspects of the EIA study. *Research Manager*: Coordinate the overall EIA study activities, data collection, analyses, interpretation, and compilation of the study results. *Corporate Manager*: Oversee the financial flow of the EIA study, correspondence with the respective authorities, parties and clients, contribute in the environmental management aspects of the EIA study.

The following specialists and personnel will perform data collection, analysis, and interpretation of results:

- Hydrologist – Dr. xxx
- GIS/Mapping – xx
- Forester – xx
- Faunal Study – xx
- Socio-Economic – xx
- Assistants - xx

## APPENDIX I

### CURRICULUM VITAE

**Name:** xxx

**Specialization:** Forestry

**Nationality:** Malaysian

**Date of Birth:** xx March 19xx

**Identity card:** xx-xx-xx

**Education:** Masters in xx  
Asian Institute of Management (AIM), Manila, Philippines

**Memberships:** xx  
xx

**Key Qualification:** Environmental Management and Forestry, xxx, xxxx

**Experience Record:**

Period (From/to month/year)	Employer	Position and main activities
2000 - Now		
2000 - Now		
1994 - 2000		
1986 - 1994		
1985		
1983 - 1985		
1981		
1980		
1979		
1974		

**Experience Abroad :** None

**Selected EIA Assignments**

1. Project Director: EIA report on Quarry project at xx, Sabah for xx Sdn Bhd in 1995.
2. Project Director: EIA report on xx project for xx in 1996. Report submitted to DOE.

**Other Selected Assignments:**

- 1 Team Leader: Preparation of xxx.
- 2 Project Director : Preparation of a xxx, a collaboration Project Between xxx and a xxx.

**Publications:**

1. xx