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**SUGGESTED GUIDELINES FOR ENVIRONMENTAL IMPACT
ASSESSMENT OF BEACH RESORT IN SABAH**

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UNIVERSITI MALAYSIA SABAH

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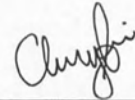
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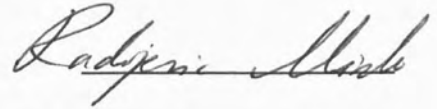


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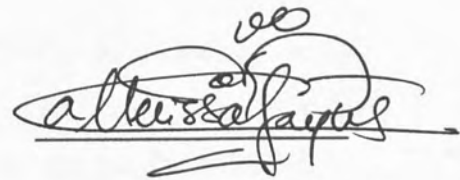
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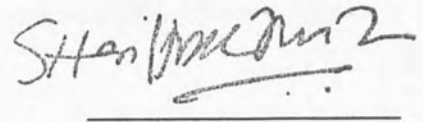
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ABSTRACT

Coastal zone of Sabah contains valuable natural resources, including mangrove, swamps, sandy beaches and coral reefs and very sensitive to human activity. Since 1999, the development of beach resort in Sabah coastal area required an environmental impact assessment report if the proposed activity is prescribed under Conservation of Environment (Prescribed Activities) Order 1999. Specific guidelines for several prescribed activities have been published by Environment Protection Department of Sabah to provide project proponent and environmental consultants guidance and suggestions in preparing an EIA report. However, there are no specific EIA guidelines for beach resort development activities in Sabah even though the activities of beach resort development is increasing due to booming of tourism sector in Sabah. Through this study, suggested EIA guidelines for beach resort construction in Sabah have been produced. It is done through an adoption from EIA guidelines for others prescribed activities and modification of EIA guidelines for coastal resort development projects from The Federal. These suggested guidelines will cover four main components in an EIA study, Sabah context, environmental impact, mitigation measures and monitoring. EIA guidelines for beach resort projects will facilitate the process of EIA study and therefore improve the quality of EIA report. It provides the project proponents and environmental consultant a better illustration about the requirement and suggestion to refer to during the EIA study of the proposed projects.



**CADANGAN GARIS PANDUAN PENILAIAN IMPAK ALAM SEKITAR
BAGI PEMBANGUNAN TEMPAT PERANGINAN
TEPI PANTAI DI SABAH**

ABSTRAK

Kawasan pantai Sabah mengandungi sumber-sumber semulajadi yang bernilai, termasuk paya bakau, kawasan paya, pantai pasir dan terumbu karang yang sangat sensitif terhadap kegiatan manusia. Sejak tahun 1999, pembangunan tempat peranginan di kawasan pantai Sabah memerlukan laporan penilaian impak alam sekitar (EIA) jika aktiviti tersebut adalah tertakluk kepada *Conservation of Environment (Prescribed Activities) Order 1999*. Buku garis panduan spesifik bagi beberapa aktiviti yang ditetapkan telah diterbitkan oleh Jabatan Perlindungan Alam Sekitar untuk memberi panduan dan cadangan kepada penyokong projek dan konsultan alam sekitar ketika menyediakan laporan EIA. Tetapi tiada garis panduan spesifik bagi pembangunan tempat peranginan tepi pantai di Sabah disediakan walaupun pembangunan tempat peranginan semakin meningkat yang disebabkan oleh perkembangan sektor perlancongan yang pesat. Melalui kajian ini, garis panduan cadangan bagi pembangunan tempat peranginan tepi pantai di Sabah telah di hasilkan. Ia adalah hasil daripada dipilih dan pengubahsuaian daripada garis panduan yang lain bagi aktiviti yang ditetapkan di Sabah serta garis panduan bagi projek pembangunan tempat peranginan tepi pantai dari Persekutuan. Garis panduan cadangan ini merangkumi empat bahagian penting dalam EIA. Garis panduan pembangunan tempat peranginan akan memudahkan proses kajian EIA dan seterusnya meningkatkan kualiti laporan EIA. Ia membekalkan penyokong projek dan konsultan alam sekitar ilustrasi yang lebih baik dan cadangan semasa kajian EIA projek tersebut.



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LIST OF ABBREVIATION AND SYMBOL

CEE	Conservation Environment Enactment
DANCED	Danish Co-operation for Environment and Development
DID	Department of Irrigation And Drainage
DOE	Department of Environment
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EPD	Environment Protection Department
EQA	Environmental Quality Act
EQC	Environmental Quality Council
ESCP	Erosion and Sediment Control Plan
GIS	Geographical Information System
HHWM	Highest High Water Mark
ICZM	Integrated Coastal Zone Management
NEPA	National Environment Policy Act
NREB	Natural Resources and Environment Board
RMA	Resource Management Act
SESB	Sabah Electricity Sdn Bhd
TOR	Term of Reference
USLE	Universal Soil Loss Equation
&	And
Km	Kilometer
%	Percentages



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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Nowadays developing projects had become very usual and many in most states in Malaysia. Development cannot deniable can bring a lot of benefit to country and also public. But besides the benefits, development also brings plenty of environmental problems. As a result, there are such many solutions and prevention had come out to protect our environment. No matter is environmental impact assessment or environmental management become more and more important nowadays. Well-planning is a basic requirement for the development projects now.

Natural sources always become an attraction to tourist especially foreigner. So this is a very important aspect in Malaysia tourism developing. These factors had become an attractive spot to tourists no matter local or from abroad. Therefore it is very important to work out an EIA report to identify wherever possible, the environmental costs and benefits of the development activity (EPD, 2005).



Coastal area incorporates unique characteristic and various ecosystem including coral reefs, mangroves, mudflats, sandy beaches, estuarines and lagoons (Payne & Mohamad, 1995). Most of the EIA initiatives in Malaysia are focused on identifying and assessing the physical, institutional, environmental, biological and economical dimensions of the coastal areas (Ainul, 2005). Beaches are a public asset to which public access cannot by law be restricted. Beaches act as a habitat for various marine and estuarine turtles and for some species of coastal birds (JPDB, 1996). It is a common knowledge that coastal areas have ecological, economic and societal values. Coastal areas are losing the values to intensifying human activities, for example beach resort. And that is also declining of the coastal ecosystem qualities. Beach holidays can be considered as the most favorable activities among domestic tourists. The Cuti-Cuti Malaysia campaign has further encouraged the domestic tourists to engage in beach holidays.

Sabah State is recognized as being well endowed with world standard natural resources, including habitats and geographic features in Sabah's natural environment. Those nature environment had creating potential for the development of Travel Tourism to Sabah. As recognition of the significance tourism advantages, Sabah State government had identified the tourism sector as a suitable industry for development, to assist the development of Sabah's economy (WaY, 1997). Sabah is known with sunshine, sea and beaches. Therefore many resorts are built on the beach such as Tanjung Aru, Karambunai, Semporna, Pantai Dalit and Kuala Penyu. The environmental impact assessment report is needed prior to the project of development. It is needed to work out an EIA report before conducting the project on the beach areas to prevent any degradation of the area quality.

Department of environment had set up two types of the guidelines of EIA for the prescribed activities listed in the Second Schedule of the Order, namely the general EIA guideline and special EIA guideline (EPD, 2005). The aim of this guideline is to provide the government and private sector a better way to follow in preparing the EIA report for their activities. This is very important to protect and safe our environment. Those activities have specific guidelines of EIA under the Sabah DOE are:

- Logging and Forest Clearance Activities
- Construction on Hillslopes
- Mines and Quarries Projects
- River Sand and Stone Mining
- Palm Oil Plantation

Through these guidelines of EIA, we can understand how important our natural sources are. Prediction of the impacts may caused and well-planning before a developing project is necessary.

Regarding to the EIA order, constructing of a beach resort is a prescribed activity listed in the Second Schedule under the Environment Protection (Prescribed Activities) (Environmental Impact Assessment) Order 2005 (EPD, 2005). Therefore it is required for an EIA report if the construction is under the conditions set by the DOE based on the project sizes and quantum. An EIA report for any constructions is considered as a time-consuming and cost-consuming job. But actually a good EIA report can help a construction progress more smoothly and minimize the operating



cost. A guideline for the EIA report is needed to provide the developer a clear direction on the EIA progress.

1.2 OBJECTIVE

The main objectives of this project are:

1. To produce a set of suggested specific guidelines for EIA for the projects constructing beach resort in Sabah.

1.3 SIGNIFICANCE OF STUDY

Beach areas are important assets to our country. Malaysia has many beaches which are natural and beautiful especially in Sabah. Sabah is well-known with beautiful beaches. These has become an attractive spot to many tourist especially foreigners. As a result, the constructing of beach resorts at the beach increase by days. The Department of Environment of Sabah had set up many specific guidelines of EIA for various activities carrying out in Sabah.

But there was no a specific guideline of EIA for the project of constructing a beach resort. The fundamental question that needs to be determined is: Is the general guideline good enough to protect our country's natural asset – beach? So it is very important to set up a special guideline of EIA for the beach resort projects in Sabah. Besides, tourism sector contribute a major profit to our country. An EIA guideline is useful to ensure the EIA can be well prepared before the construction start. The



guidelines also have to recheck from times to times to ensure that the project does not bring any problem to the environment and to prevent the environmental degradation.



CHAPTER 2

LITERATURE REVIEW

2.1 ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

2.1.1 Definition EIA

EIA as a process of predicting and evaluating the effects of an action or series of actions on the environment then uses the conclusions as a tool on planning and decision-making. Hence it is a process, not a product. One of the aims of EIA is preventing environmental degradation, but EIA is just the first part to give the planner and decision-makers better information about the consequences which development could have on the environment (Pritchard, 1996).

In the United States, National Environment Policy Act (NEPA) had defined the Environmental Impact Assessment (EIA) as the systematic identification and evaluation of the potential impacts (effects) of proposed projects, plans, programs, or legislative actions relative to the physical-chemical, biological, cultural and socioeconomic components of the total environment. Under the US environmental law, an EIA is also referred to as the Environmental Impact Statement (EIS) (Canter, 1996).



The UK Department of Environment, Transport and the Regions defined EIA as a means of drawing together, in a systematic way, an assessment of a project's likely environment effects that helps to ensure the importance of the predicted effects, and the scope for reducing them, there are properly understood by the public and the relevant competent body before it makes its decision (Wood, 2003).

In the Netherlands, EIA is a separate procedure that is soundly structured and based on a strong democratic consensus tradition. The organization reviews all EIA reports and gives advice on the quality and adequacy of EIA information. The EIA Commission plays an important role in objectifying the EIA process, as does public participation (Schiff, 1997).

EIA in New Zealand is embedded in the Resource Management Act (RMA). The Act has purposely given the decision making authorities a very large degree of flexibility in implementation (Schiff, 1997).

In Malaysia, DOE is defining the EIA as a study to identify, predict, evaluate and communicate information about the impacts on the environment of a proposed project and to detail out the mitigating measures prior to project approval and implementation. Or in a simpler definition, EIA is a process designed to identify and predict the impact on man's health and well-being of development projects, and to interpret and communicate information about the impacts (DOE, 1995).



2.1.2 History of EIA

The origin of EIA system started with the enactment of the National Environment Policy Act (NEPA) in 1969 by the US. As a result, it has become an important model for EIA system, because it was a radically new form environmental policy and also because of the successes and failure of its subsequent development (Sentian & Piakong, 2001).

The EIA was initially ignored. The EIA system have been established in various forms all around the world, beginning with the more developed countries such as Canada in 1973, Australia in 1974, New Zealand in 1974, West Germany in 1975, France in 1976 and later also in the less developed countries in particularly in Asia, South America and Africa (Sentian & Piakong, 2001). Nowadays, as concern about the environment has grown and the interest in EIA has burgeoned, there are now more than 100 EIA systems in existence worldwide (Wood, 2003).

2.1.3 History of EIA in Malaysia

The Environmental Quality Act 1974 (EQA) is a Federal Act relating to the prevention, abatement, control of pollution and enhancement of the environment. Four additional sets of regulations were introduced and enforced by the Department of Environment (DOE) in the late eighties. One set of the regulation is the Environment Quality (Prescribed Activities) (Environment Impact Assessment Order) 1987 which concerns the requirement of EIA for the prescribed activity. This Order was enforced



on the 1st of April 1988 in all the 13 states in whole Malaysia (Sentian & Piakong, 2001).

The review of the EIA report is done internally by DOE. In 1993, four DOE's state offices (Johor, Penang, Selangor and Sarawak) were given the full responsibility to review and decide on all preliminary EIA reports and then were fully expanded to the rest of the states offices in 1999 (Sentian & Piakong, 2001).

In late 1993, Sarawak State Assembly sitting approved the amended Natural Resources and Environment Ordinance, 1949 to cover the areas of environmental management of natural resources and the newly amended Ordinance was enforced on the 1st of February 1999 to consolidate and amended the law relating to conservation of natural resources. The first set of Order under the Ordinance was the Natural Resources and Environment (prescribed Activities) Order 1999 requiring any person to carry out any prescribed activity to submit an EIA. Order was enforced on 1st of September 1999. EIA in Sabah State was started in the year 1996 when the Sabah State Assembly passed a new bill for creation of new enactment entitled "Conservation of Environment Enactment, 1996". Under the Enactment, the Conservation of Environment (Prescribed Activity) Order, 1999 was made and came into force on the 1st of September 1999 (Sentian & Piakong, 2001).



2.2 PRESCRIBED ACTIVITY

2.2.1 Prescribed Activities in The Federal's Law

The Federal law is the Environmental Quality Act, 1974 (Amendment, 1985) (EQA). The Amendments include the insertion of Section 34A which requires any person intending to carry out any prescribed activity to submit report on the impact on the environment to the Director General of Environmental Quality for examination. Under Section 34A(1), the Minister after consultation with EQC may prescribed any activity which have significant environment impact as the prescribed activities. There are a total of 19 activities under the First Schedule of the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987. Those activities are agriculture, airport, drainage and irrigation, land reclamation, fisheries, forestry, housing, industry, infrastructure, ports, mining, petroleum, power generation and transmission, quarries, railway, transportation, resort and recreational development, waste treatment and disposal and water supply (Sentian & Piakong, 2001).

2.2.2 Prescribed Activities in Sarawak

In Sarawak, there are some development activities specified in the First Schedule as prescribed activities. They are based on the Natural Resources and Environment (Prescribed Activities) Order 1994. There are a total of 7 categories of projects that required an EIA report. There are agricultural development, logging, development of commercial, industrial and housing estates, activities which may pollute inland water



or affect sources of water supply, fisheries and activities which may endanger marine or aquatic life, plants in inland waters or erosion of river banks, extraction and removal of rock materials and mining, and the last category is any other activities which may damage or have an adverse impact on quality of environment or natural resources of the state (Sentian & Piakong, 2001).

2.2.3 Prescribed Activities in Sabah

Regarding the First Schedule of the Conservation and Environment (Prescribed Activities) Order 1999 of Sabah, there are 7 categories of projects which required an EIA report which are same with the Sarawak State Natural Resource and Environment (Prescribed Activities) Order 1994. In 2002, with the passing of the Environment Protection Enactment 2002, which is to replace the Conservation of Environment Enactment 1996, there are a total of 12 categories of development activities prescribed under the Second Schedule of the Environment Protection (Prescribed Activities) (Environmental Impact Assessment) Order, 2005. Those activities are agriculture, forestry, housing, commercial and industrial estates, drainage and irrigation, land, reclamation, fisheries and aquaculture, mining, power generation, quarries, resort and recreational development, water supply and any other activities which may damage or have an adverse impact on quality of environment (EPD, 2005) (Appendix A).

2.3 EIA PROCEDURES IN MALAYSIA

There are three kinds of EIA procedures in Malaysia. This is due to State of Sarawak and Sabah has their own EIA Order which is slightly different from the Federal EIA



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