

**A LEGAL ANALYSIS ON LAW AND POLICY ON
CONSERVATION OF FOREST IN
PENINSULAR MALAYSIA**

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ABSTRACT

Forest performs multiple functions and requires a diligent commitment to its conservation. This green cover in Peninsular Malaysia, although accounting for only a small percentage of the land area, shelters a unique range of biodiversity living within it. Nonetheless, this natural resource of Peninsular Malaysia appears to be dwindling, mostly as a result of the actions of humankind, even though this green cover is governed by sets of laws. The protected area, a status secured by the law, is apparently easily excised from the government gazette, and the status of permanent forest use is changed to non-permanent forest use, for instance agriculture, plantations, residential or industrial activities and projects. This study seeks to analyse the current forest conservation practices in different states of Peninsular Malaysia in order to determine whether the current practices conform to Environmental Law principles recognised at the international level. The Stockholm Declaration followed by the Rio Declaration have indeed widened the global perspectives on environmental conservation, and their impact can be seen in the current approach of forest conservators in Peninsular Malaysia; however, the amount of forest area, as shown in forest reports and statistics, is decreasing. The rights of participation in decision-making on land and forest resources by the public and Orang Asli communities (indigenous peoples) as important stakeholders in forests in Peninsular Malaysia are also discussed. Data and information from various libraries and institutions have been gathered and collected in the course of this research and study. In order to support and strengthen the arguments and discussion based on the aforementioned information and data, semi-structured interviews are conducted with the forest conservators, *inter alia* officers in charge of forest conservation in every State Forestry Department of Peninsular Malaysia, the Department of Orang Asli Development and *Sahabat Alam Malaysia* (Friends of the Earth, Malaysia) as well as the World Wide Fund for Nature, Malaysia (both are

environmental Non-Governmental Organisations (NGO)). Officers of Department of Environment and Department of Wildlife and National Parks also assisted in providing further related data and information. From the interviews and the information given, it was evident that forest conservators and officers in charge of Orang Asli were aware of Environmental Law principles recognised at the international level; however, this awareness is not reflected in the law and policy on forest in Peninsular Malaysia. Nonetheless, the NGOs have different views on the need to revamp the forest law and policy to ensure better forest ecosystem protection. Moreover, it was also found that the National Forest Policy 1978 (Revised 1992) only stressed sustainable forest management without acknowledging other Environmental Principles, thus indicating the priority of economic purposes over environmental needs. Meanwhile, the National Forestry Act 1984 was more concerned with the administration of forest than with its environmental aspects. Hence, a comprehensive law and policy on forest that conforms to recognised Environmental Principles of forest is considered significant and vital to ensure that this unique forest, which provides thousands of benefits, can be sustained for future generations to enjoy.

ABSTRAK

Hutan menyumbang kepada pelbagai fungsi dan memerlukan komitmen yang jitu dalam pemuliharaannya. Litupan Semenanjung Malaysia yang mempunyai peratusan yang kecil berbanding dengan keluasan tanahnya merupakan tempat perlindungan bagi pelbagai jenis biodiversiti yang unik. Namun begitu, sumber alam semulajadi ini dilihat semakin merosot berpunca daripada perbuatan manusia walaupun ianya dilindungi oleh undang-undang. Proses pembatalan pewartaan kawasan yang dilindungi oleh undang-undang ini ternyata amat mudah dan kesannya adalah statusnya diubah daripada kegunaan hutan tetap kepada bukan kegunaan hutan seperti guna tanah untuk tujuan pertanian, perladangan, perumahan atau aktiviti perindustrian dan pelbagai projek yang lain. Kajian ini bertujuan untuk menganalisa amalan pemuliharaan hutan terkini di kesemua negeri di Semenanjung Malaysia untuk melihat samada amalan tersebut adalah bertepatan dengan prinsip-prinsip undang-undang Alam Sekitar yang telah diiktiraf di peringkat antarabangsa. Deklarasi Rio yang menyusul selepas Deklarasi Stockholm telah membuka perspektif global terhadap pemuliharaan alam sekitar dan kesannya dapat dilihat dalam pendekatan terkini pemuliharaan hutan di Semenanjung Malaysia. Walau bagaimanapun, laporan dan statistik menunjukkan jumlah hutan adalah semakin berkurangan. Hak penyertaan dalam proses membuat keputusan dalam hal tanah dan sumber hutan di Semenanjung Malaysia oleh orang awam termasuk Orang Asli sebagai orang yang berkepentingan juga dibincangkan. Data dan maklumat daripada beberapa perpustakaan dan institusi berkaitan perhutanan telah dikumpul sepanjang kajian ini dijalankan. Bagi menyokong perbincangan yang berasaskan data dan maklumat yang terkumpul, beberapa temubual separa berstruktur dilaksanakan dengan menemubual pemulihara hutan iaitu pegawai yang bertanggungjawab dalam memulihara hutan di setiap Jabatan Perhutanan Negeri di Semenanjung Malaysia, Jabatan Kemajuan Orang Asli, Sahabat Alam Malaysia dan juga WWF (World Wide Fund for Nature). Pegawai-

pegawai daripada Jabatan Alam Sekitar dan juga Jabatan Perlindungan Hidupan Liar dan Taman Negara (PERHILITAN) juga telah membantu dalam mendapatkan maklumat lanjut yang berkaitan. Daripada temubual dan maklumat tersebut dapatlah dilihat bahawa pemulihara hutan dan juga pegawai yang bertanggungjawab menjaga hal ehwal Orang Asli peka terhadap prinsip-prinsip Undang-undang Alam Sekitar yang diiktiraf di peringkat antarabangsa namun begitu kepekaan tersebut tidak diterjemahkan dalam undang-undang dan polisi hutan di Semenanjung Malaysia. Walau bagaimanapun, Badan-badan Bukan Kerajaan mempunyai pandangan yang berlainan berkenaan keperluan untuk meminda undang-undang dan polisi hutan di Semenanjung Malaysia bagi memastikan perlindungan ekosistem hutan yang lebih baik. Tambahan pula, Dasar Perhutanan Negara 1978 (Pindaan 1992) hanya menekankan pengurusan hutan yang mapan tanpa melihat kepada prinsip-prinsip alam sekitar. Sehubungan itu, keutamaan bagi tujuan ekonomi adalah jelas berbanding penekanan kepada keperluan alam sekitar. Manakala Akta Perhutanan Negara 1984 hanya lebih menumpukan kepada urusan pentadbiran hutan berbanding aspek alam sekitar. Oleh itu, satu undang-undang dan polisi hutan yang komprehensif yang menitikberatkan prinsip-prinsip alam sekitar terhadap hutan adalah signifikan dan penting bagi memastikan keunikan hutan yang mempunyai ribuan manfaat ini dapat dipertahankan untuk dinikmati oleh generasi akan datang.

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LIST OF STATUTES

Laws of Malaysia The Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987.

Laws Of Malaysia Federal Constitution, The Commissioner Of Law Revision, Malaysia Under The Authority Of The Revision Of Laws Act 1968 In Collaboration With Percetakan Nasional Malaysia Bhd 2006.

Laws of Malaysia The Environmental Quality (Amendment) Act 2012 amends the Environmental Quality Act 1974 (Act 127).

Laws of Malaysia The National Forestry Act 1984 (Act 313).

Laws of Malaysia The Wildlife Conservation Act 2010 (Act 716).

Malaysia's National Policy on Biodiversity (Official declaration: Thursday, April 16 1998, Kuala Lumpur, Malaysia, Ministry of Science, Environment and Technology), ARBEC's website: <<http://www.arbec.com.my>> 19 Jul. 2012.

Malaysia, Ministry of Science, Technology and the Environment, Dasar Alam Sekitar Negara/National Policy on the Environment, 2002, 19.7.2012 <http://www.doe.gov.my/portal/wp-content/uploads/2010/07/dasar_alam_sekitar_negara.pdf>.

Malaysia: Official Website Federal Department of Town and Country Planning Peninsular Malaysia, National Physical Plan 2, 28.8.2012 <[http://www.townplan.gov.my/devo/download/National%20Physical%20Plan\(kecik\)](http://www.townplan.gov.my/devo/download/National%20Physical%20Plan(kecik))>

The National Forestry Policy 1978 (Revised 1992), Approved by the National Forestry Council on 19 April 1978, Malaysia, Forestry Department Peninsular Malaysia.

The National Policy on Biological Diversity, Approved on 16 Apr. 1998, the Ministry of Science, Technology and the Environment, Malaysia.

The National Policy on the Environment, Approved on 2 Oct. 2002, Ministry of Science, Technology and the Environment, Malaysia.

The Third National Agricultural Policy (1998-2010), Ministry of Agriculture Malaysia.

Peninsular Malaysia: Ministry of Agriculture, Third National Agricultural Policy (1998-2010) Executive Summary.

The National Agricultural Policy 1984. Approved on 12th Jan. 1984, Kuala Lumpur. Later replaced by the National Agricultural Policy 1992-2010, Ministry of Agriculture, Kuala Lumpur.

The Third National Agricultural Policy (1998-2010), Ministry of Agriculture Malaysia.

The National Physical Plan 2005. Approved by the National Physical Planning Council on the 26th Apr. 2005, Federal Department of Town and Country Planning Peninsular Malaysia, Kuala Lumpur.

LIST OF TREATIES

Convention on Biological Diversity, opened for signature 5 June 1992, UNTS 30619 (entered into force 29 Dec. 1993). Malaysia ratified CBD in June 1994.

Convention concerning the Protection of the World Cultural and Natural Heritage, opened for signature 16 June 1972, UNTS 15511 (entered into force 17 Dec. 1975). Malaysia ratified on 7 Dec. 1988.

Convention on International Trade in Endangered Species of Wild Fauna and Flora, opened for signature 3 Mar. 1973, UNTS I-14537 (entered into force 1 July 1975). Malaysia ratified CITES in 1977.

Convention on Wetlands of International Importance especially as Waterfowl Habitat, opened for signature 2 Feb. 1971, UNTS I-14583 (entered into force 21 Dec. 1975). Malaysia ratified in Feb. 1971.

International Tropical Timber Agreement, opened for signature 3 Apr. 2006, UNTS 49197 (entered into force 7 Dec. 2011). Malaysia ratified on 28 Sep. 2007

Kyoto Protocol to the United Nations Framework Convention on Climate Change, opened for signature 11 Dec. 1997, UNTS 30822 (entered into force 16 Feb. 2005). Malaysia ratified Kyoto Protocol on 4 Sep. 2002.

Non-legally binding instrument on all types of forests, UN GAOR, 62nd sess, UN DOC A/RES/62/98 (2007). Malaysia adopted this forest instrument in 2007.

United Nations Declaration on the Rights of the Indigenous Peoples (2007), GA Res 61/259, UN GAOR 61st Sess. 49th Supp. UN Doc A/Res/61/295

United Nations Framework Convention on Climate Change, opened for signature 9 May 1992, UNTS 30822 (entered into force 21 Mar. 1994). Malaysia ratified UNFF on 13 July 1994.

Report of the fourth session of the Intergovernmental Forum on Forests, UN ESCOR, 4th sess, UN Doc E/2000/L.32 (2000).

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Dato' Malik & Salemah Enterprise v. Mohd Azmi bin Mohd Ali dan lain-lain [2009] 9 MLJ 674.

Kerajaan Negeri Johor & Anor v Adong bin Kuwau & Ors [1998] 2 MLJ 158.

Ketua Pengarah Jabatan Alam Sekitar & Anor v Kajing Tubek & Ors [1997] 3 MLJ 23.

Majlis Perbandaran Pulau Pinang v Syarikat Bekerjasama-sama Serbaguna Sungai Gelugor Dengan Tanggungan [1999] 3 MLJ 1.

Mamat bin Daud & Ors v Government of Malaysia [1988] 1 MLJ 119, SC.

MPK v. Zakiah [2004] 2 MLJ 593

Perbadanan Kemajuan Negeri Selangor v. Kwong Kee Cheong Sawmill Sdn Bhd [2011] 7 MLJ 77

Roland Chong Yew Soon & Ors v Majlis Perbandaran Subang Jaya & Anor [2006] 6 MLJ 472.

Sagong bin Tasi & Ors v Kerajaan Negeri Selangor & Ors [2002] 2 MLJ 591.

Tenggara Gugusan Holidays Sdn Bhd v Public Prosecutor [2003] MLJ.

LIST OF SYMBOLS AND ABBREVIATIONS

APA	Aboriginal People Act
ASAS	<i>Angkatan Sahabat Alam Sekitar</i> /Friends of the Environment Movement
CBD	Convention on Biological Diversity
CFS	Central Forest Spine
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora 1973
COAC	Center of Orang Asli Concerns
CO ²	carbon dioxide
DAMAK	(<i>Data Maklumat</i>) Information System.
DANIDA	Danish International development Assistance
dbh	diameter at breast height
DOE	Department of Environment
ECERDC	East Coast Economic Region Development Council
EIA	Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order
EQA	Environmental Quality Act
ESA	Environmental Sensitive Area
EU	European Union
FAO	Forest and Agriculture Organisation
FC	Federal Constitution
FDPM	Forestry Department of Peninsular Malaysia
FELCRA	Federal Land Consolidation and Rehabilitation Authority
FELDA	Federal Land Development Authority
FLEGT	Forest Law Enforcement, Governance and Trade
FMRS	Forest Monitoring Using Remote Sensing
FMU	Forest Management Unit
FPIC	Free, prior informed consent
FRA	Forest Resource Assessment
FRIM	Forest Research Institute of Malaysia

FSC	Forest Stewardship Council
GHG	Greenhouse gas
GDP	Gross Domestic Product
GIS	Geographic Information System
ha	hectares
HCFV	High Conservation Forest Value
ICJ	International Court of Justice
IIUM	International Islamic University of Malaysia
IRDA	Iskandar Regional Development Authority
ITTA	International Tropical Timber Agreement
IUCN	International Union for Conservation of Nature
JAKOA	<i>Jabatan Kemajuan Orang Asli</i> /Department of Orang Asli Development
JHEO	<i>Jabatan Hal Ehwal Orang Asli</i> / Orang Asli Affairs Department
KEDA	<i>Lembaga Kemajuan Wilayah Kedah</i> /Kedah Regional Development Authority
MACRES	MACRES Sdn. Bhd. is a local private company in field of Remote Sensing and GIS technology (Geo-Spatial Technology) business.
MADA	<i>Lembaga Kemajuan Pertanian Muda</i> /Muda Agricultural Development Authority
MASTIC	Malaysian Science and Technology Information Centre
MC&I 2001	Malaysian Criteria and Indicators 2001
Mengo	Malaysian Environmental NGO
MNRE	Ministry of Natural Resources and Environment
MNS	Malaysian Nature Society
MOSTI	Ministry of Science, Technology and Innovation
MP	Malaysia Plan
MPOB	Malaysian Palm Oil Board
MSA	Cooperative of Malaysia
MTCC	Malaysian Timber Certification Council
MTIB	Malaysia Timber International Bodies
MUS	Malayan Uniform System

NCIA	Northern Corridor Implementation Authority
NGO	Non-Governmental Organisation
NFA	National Forestry Act
NFC	National Forestry Council
NFP	National Forestry Policy
NKRA	National Key Result Areas
NPP	National Physical Plan
PERHILITAN/DWNP	<i>Jabatan Perlindungan Hidupan Liar dan Taman Negara Semenanjung Malaysia/Department of Wildlife and National Parks Peninsular Malaysia</i>
PFE	Permanent Forest Estate
Post-F	Post-Felling Forest Inventory
p.p.m	parts per million
Pre-F	Pre-felling Forest Inventory
PRF	Permanent Reserve Forest
PKNK	<i>Perbadanan Kemajuan Negeri Kedah/Kedah Development Corporation</i>
PKNS	<i>Perbadanan Kemajuan Negeri Selangor/Selangor Development Corporation</i>
POASM	<i>Persatuan Orang Asli Semenanjung Malaysia/Orang Asli Society of Peninsular Malaysia</i>
RAMSAR	Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 1972
RFID	Radio Frequency Identification
RISDA	Rubber Industry Smallholders Development Authority
SAM	<i>Sahabat Alam Malaysia</i>
SEA	Strategic Environmental Assessment
SFD	State Forestry Department
SMS	Selective Management System
TCPA	Town and Country Planning Act
UNCCD	United Nations Convention to Combat Desertification

UNCED	United Nations Conference on Environment and Development
UNDRIP	United Nation Development of the Rights of Indigenous People
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nation Forum on Forests
UM	University Malaya
UPM	University of Putra Malaysia
VJR	Virgin Jungle Reserves
WHO	World Health Organisation
WWF	World Wide Fund for Nature

LIST OF APPENDICES

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CHAPTER ONE: A LEGAL ANALYSIS ON LAW AND POLICY ON CONSERVATION OF FOREST IN PENINSULAR MALAYSIA: AN INTRODUCTION

1.1 Background of Peninsular Malaysia and its Forest

Malaysia comprises Peninsular Malaysia and East Malaysia. Eleven states and two Federal Territories of Kuala Lumpur and Putrajaya are located in Peninsular Malaysia while, in the east of Malaysia (Borneo Island), there are two other states, Sabah and Sarawak, situated together with the Federal Territory of Labuan. Peninsular Malaysia is located between latitudes 1°20' and 6°45' North and between longitudes 99°40' and 104°20' East; it comprises eleven states: Perlis, Kedah, Pulau Pinang, Perak, Kelantan, Terengganu, Pahang, Selangor, Melaka, Negeri Sembilan and Johor. The rulers of each state in Peninsular Malaysia are known as *Sultans*, except for the state of Perlis, Melaka and Pulau Pinang where in Perlis the ruler is the *Raja* and in the Melaka and Pulau Pinang the governor is the *Yang di-Pertua Negeri*. Meanwhile, in the Federal Territory of Kuala Lumpur and Putrajaya the ruler is the *Yang di-Pertuan Agong* (YDPA/His Royal Highness).

Its maximum width is 322 km with a length from the northernmost to the southernmost tip of approximately 740 km. Parallel mountain ranges in northeast-southeast directions characterize the northern and central-western parts, with peaks about 2,000 m high with the highest point being 2,190 m.¹

The above statement indicates the coverage of forest, specifically Permanent Forest Estate in Peninsular Malaysia. In 2011, the forested area in Peninsular Malaysia was 5.81 million hectares (ha) of a total land area of 13.18 million ha, which means that 44% of the land area in Peninsular Malaysia is covered with forest whilst Permanent

¹ Thang, Hooi Chiew, *Malaysia Forestry Outlook Study*, (Bangkok: FAO, 2009), 5, 21.

Reserved Forest was 4.91 million ha (37.2%).² Forests are regarded as the property of the state and this is provided for under the Malaysian Federal Constitution.³ Thus, in Peninsular Malaysia, forests are governed by ten State Forestry Departments (SFD) and one forest office in Melaka, which is headed by the Director of Forests. More about the history of forest governance is discussed in chapter three of the thesis.

1.1.1 Forest in Peninsular Malaysia

The forested area in Peninsular Malaysia has been drastically reduced over the years and continues to decline even now. As mentioned earlier in 2011, there were 5.81 million ha or 44% of forested land in Peninsular Malaysia.⁴ It is to be noted that not all forested land under the management of the Department of Forestry is gazetted as Permanent Reserve Forest (PRF) or Permanent Forest Estate (PFE). Hence, of the land area in 2011, 37.2% or 4.91 million ha were designated as PRFs that this study places its concern. It is also stated in a Forest Report that 3,918 ha of forest reserves were excised as forest excision or forest degazettement, which can easily be carried out under the provisions of the National Forestry Act 1984 (NFA).⁵ Degazettement or excision of forest reserve areas is done mainly for the purpose of agriculture and also for the establishment of new town areas.

Land areas in Peninsular Malaysia are being rapidly developed nowadays and this has affected ecological balances in the forest system in the sense that reserved forest has been easily excised or converted for permanent development. This can be clearly seen in

² Official Website Forest Department Peninsular Malaysia, *Maklumat Perangkaan Hutan Bagi Tahun 2011*, 18 Dec. 2012 <<http://www.forestry.gov.my/index.php/ms/pusat-sumber/statistik.html>>.

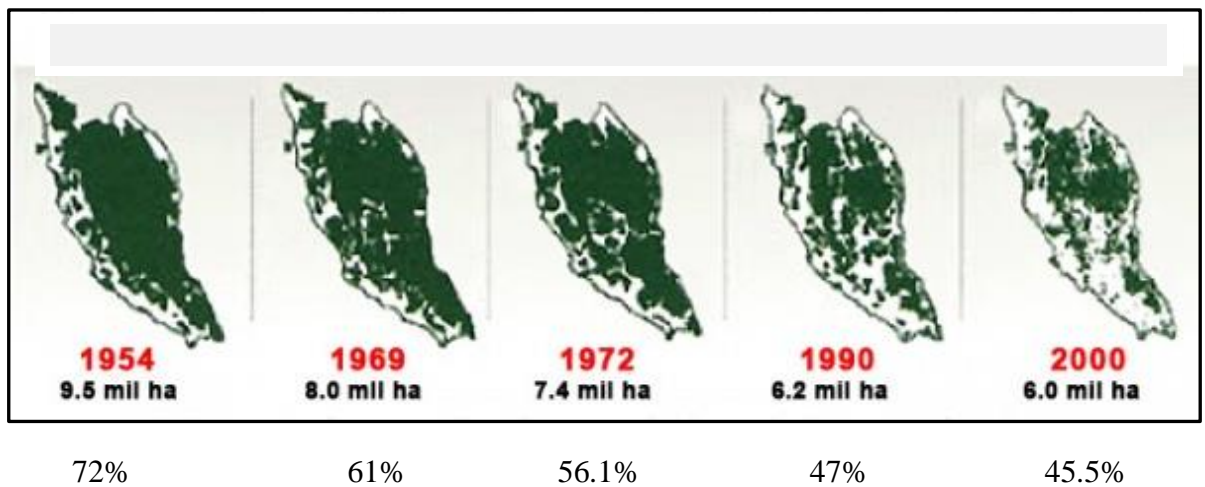
³ Laws of Malaysia Federal Constitution, the 9th Schedule, List II- State List.

⁴ See note 2.

⁵ See Laws of Malaysia the National Forestry Act 1984 (Act 313) s 11: State Authority may excise land from permanent reserved forest-(a) is no longer required for the purpose for which it was classified under section 10; and (b) is required for economic use higher than that for which it is being utilised may excise such land from the permanent reserved forest. See also Malaysia Rainforest Conservation Profile, 25 July 2009 <<http://www.tamannegara.org/conservation=msia.htm>>.

Inventori Hutan Nasional/National Forest Inventory (IHN 1-IV) ⁶ according to the states of Peninsular Malaysia as attached in Appendix I (a-k). The darker images on the map indicate forest coverage and apparently show a rapid reduction in the coverage in all states in Peninsular Malaysia during the period 1970 – 2004.⁷ The following picture shows gradual reduction of forest coverage in Peninsular Malaysia.

Picture 1.1: Fragmentation of Natural Forest Cover in Peninsular Malaysia



Source: jbdirectory.com 2012.⁸

The forest coverage in Peninsular Malaysia as in 2007 is showed in the following Picture 1.2. As at 2011, the remaining forest area is 5.81 million ha or 44% of the land area.⁹

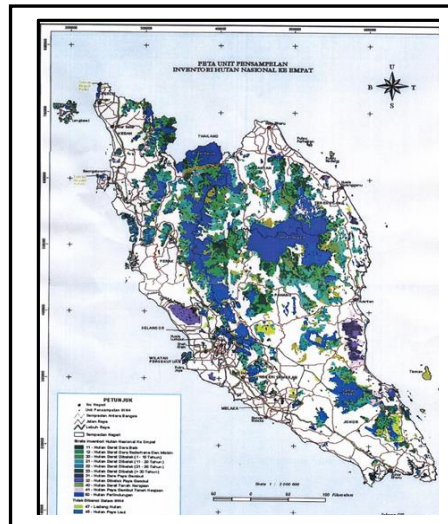
⁶ Jabatan Perhutanan Semenanjung Malaysia, Laporan Inventori Hutan Nasional Ke Empat Semenanjung Malaysia (Perlis, Kedah, Pulau Pinang, Perak, Pahang, Kelantan, Terengganu, Selangor, Melaka, Negeri Sembilan, Johor), (Kuala Lumpur: JPSM, 2007). See also MAR-SFM Working Paper 21/2007, Forest Resources Development Service, Brief on National Forest Inventory NFI, Malaysia, (Rome: FAO, 2007).

⁷ The National Forest Inventory (IHN) has been prepared four times since 1970. IHN 1 (1970-1972), IHN II (1981-1982), IHN III (1991-1993), IHN IV (2002-2004).

⁸ Fragmentation of Natural Forest Cover in Peninsular Malaysia, 3 Dec. 2012, <malaysia.jbdirectory.com/Central_Forest_Spine_Master_Plan>.

⁹ See note 2.

Picture 1.2: Forest Area in Peninsular Malaysia



Source: JPSM, 2007¹⁰

Furthermore, the Second National Physical Plan (NPP-2) clearly explains four major categories of land use patterns in Peninsular Malaysia: Built-up areas, 759,900 ha (5.8%); Agriculture, 6,268,300 ha (47.5%); Forests, 5,902,000 (44.8%); and Water Bodies, 251,500 (1.9%).¹¹ Therefore, from the land use patterns, it is clear that forested area is the second highest category of land use in Peninsular Malaysia while agriculture is the highest category of land use, although it has already been noted that agricultural land is mainly acquired from forested land. Thus, the percentage of disturbance in forest ecosystems will undoubtedly be higher than the reported percentage in the official report.

Despite what was reported in the NPP-2, the Ministry of Finance had envisaged in 1977 that, were the mid-1970s logging and agro-conversion rates to continue unabated, the commercial natural forest would be exhausted before 1990.¹² Since 1976, about 90 000 hectares per year of forested area has been cleared and about 90% of that was converted

¹⁰ Jabatan Perhutanan Semenanjung Malaysia, Laporan Inventori Hutan Nasional Ke Empat Semenanjung Malaysia, (Kuala Lumpur: JPSM, 2007).

¹¹ Official Portal of Economic Planning Unit Prime Minister's Department Malaysia, *The Tenth Malaysia Plan (10th MP)*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/web/guest/rmksepuluh>> 308.

¹² Ministry of Finance 1977 quoted in Repetto, Robert C and Malcolm Gillis, eds., *Public Policies and the Misuse of Forest Resources A World Resources Institute Book*, (New York: Cambridge University Press, 1988), 155.

for agricultural purposes.¹³ The other 10% was for the purposes of mining, hydroelectricity and highway construction.¹⁴ That was the forest scenario in the past whilst the current forest scenario is disturbed mostly by the expansion of rubber and oil palm plantations on a large scale. The recent large-scale expansion of vegetable plantations in Cameron Highlands, Pahang, and also in Lojing, Kelantan, apparently could also be considered as contributing to the deterioration of the forest environment.

Therefore, the above-mentioned situation has indicated that forests have been permanently converted to serve economic purposes; indeed, this may be the main factor in forest depletion in Peninsular Malaysia. Besides forest conversion, the increased numbers of people migrating from rural to urban areas for various reasons has also been seen to contribute to forest clearance. This phenomenon created pressures on the need for urbanization; hence, to cope with this situation forested areas started to be cleared to serve the needs of settlement areas. This phenomenon began in the early 1850s when the opening up of Kuala Lumpur created various occupations and business opportunities for people in the rural areas to migrate and settle down in the urban areas.¹⁵

Despite the above-mentioned situation, it was reported that logging was not the main factor in forest depletion in Peninsular Malaysia in the past and even in the present, even though the annual log harvesting covered 207,000 ha for the period of 1967 - 1977¹⁶ and 450, 742 ha for the period of 1997 – 2006.¹⁷

This is the scenario that has deteriorated forest coverage. Furthermore, the definition of ‘forest’ is a considerable issue. Hence, it is doubtful whether the forest conservator will

¹³ FAO 1981 quoted in *Ibid.*

¹⁴ *Ibid.*

¹⁵ See also Brookfield, H, Lesley Potter and Yvonne Byron, *In Place of the Forest Environmental and Socio-economic Transformation in Borneo and the Eastern Malay Peninsula*, (Kuala Lumpur: United Nations University Press, 1995), 23.

¹⁶ See note 12.

¹⁷ *Id* at 21.

find an easier way to conserve the forest as long as the definition of forest remains unresolved. Nonetheless, various attempts have been made to define forest and anything related thereto. The attempts have been made for various reasons and emphases. An ecologist may apply a different meaning to forest as compared to an economist. The meaning of forest may also be different from the view of a legal practitioner. On one website,¹⁸ ‘forest’ has been given variety of meanings. For example, a forest is a biome whose main vegetation consists of large groups of trees that usually grow close enough together for their tops to touch, shading the ground.¹⁹ It can also be an area of land covered by trees and under storey vegetation, sometimes mixed with pasture. In Australia, forests are described in terms of crown cover, such as closed forest, open forest, woodland and open woodland, and in terms of height of the tallest stratum, such as tall (over 30 metres), medium (10-30 metres) and low trees (under 10 metres).²⁰ A forest is an ecosystem, an association of plants and animals. Trees are its dominant feature. They provide many of the benefits of forests such as habitat, quality water, recreation, climatic amelioration and wood products. The plants and animals that make up a forest are inter-dependent and often essential to its integrity.²¹ A forest is an assemblage of woody vegetation typically attaining positions in a plant community at the tallest level, and attaining height and diameter growth of canopy-layer trees within established averages for the species.²² These are only some of the definitions of forest on the aforementioned website, and many other definitions of forest could be found, thus indicating different views and approaches based on experiences and various fields of work.

¹⁸“Definition of forest in website”, 19 June 2007 <<http://www.wordnet.princeton.edu/perl/webwn/>>.

¹⁹Ibid at <<http://www.planetpals.com/ecodictionary.html/>> .

²⁰ Ibid at <<http://www.forest.nsw.gov.au/education/glossary/default.asp/>>. See also *Forest Learning*, What is the definition of a forest? 30 Dec. 2013, <<http://www.forestlearning.edu.au/australian-forests/what-is-a-forest/What-is-the-definition-of-a-forest/>>.

²¹ Ibid at <<http://www.iowadnr.com/forestry/definitions.html/>>.

²² Ibid at <<http://www.srs.fs.usda.gov/sustain/data/researchers/glossary.htm/>> .

The Oxford Advanced Learner's dictionary defines forest as large areas of land thickly covered with trees, bushes, et cetera.²³ The World Wide Fund for Nature (WWF) uses the terms "primary" or "virgin", and "secondary" to describe tropical forests. A primary or virgin tropical forest is illustrated as a forest with no human intervention and modification whereas a secondary tropical forest is a forest which has been altered by human usage or where replanting has occurred.²⁴ The trees in this type of forest are of lower quality than trees in primary or virgin tropical forests.

In defining the forests of Peninsular Malaysia, even though there is no particular definition for forest in Peninsular Malaysia, the Forestry Department of Peninsular Malaysia (FDPM) has adopted the Food and Agriculture Organisation's (FAO) definition of forest.²⁵ FAO defines forest as "areas that comply with the following criteria; that is, an area more than 0.5 hectare; canopy cover more than 10% of the area; minimum tree height at maturity more than 5 metres, and it includes natural and plantation forests (rubber wood plantations are forests)."²⁶ The United Nations Framework Convention on Climate Change (UNFCCC)²⁷ also defines forest and its definition of forest²⁸ is said to be less strict than the FAO definition of forest. If Malaysia were to adopt UNFCCC, its forest cover would be much larger than the current figure.²⁹

²³ Hornby, A S, *The Oxford Advanced Learner's dictionary of Current English*, 4th ed., (UK: Oxford University Press, 1989).

²⁴ WWF, *Tropical Forests*, (Malaysia: WWF, 1990).

²⁵ The FDPM adopts FAO's definition for the preparation of Forest Resource Assessment (FRA) Report, Asia-Pacific Outlook Report and the Global Outlook Report.

²⁶ Mohd Yunus Zakaria, et al., "International Forest-Related Agreements and Sustainable Forest Management With Reference To Peninsular Malaysia", *National Conference on the Management and Conservation of Forest Biodiversity in Malaysia*, (Putrajaya, 20-21 Mar. 2007), 2.

²⁷ *United Nations Framework Convention on Climate Change*, opened for signature 9 May 1992, UNTS 30822 (entered into force 21 Mar. 1994).

²⁸ UNFCCC defines forests as areas that comply with the following criteria, that is area with a minimum area land of 0.05-1.0 hectare; tree crown cover (canopy cover) more than 10-30%; minimum tree height at maturity more than 2-5metres; once the values are chosen, they remain fixed; and it includes natural and plantation forests.

²⁹ See note 26.

1.1.2 Tropical Forest in Peninsular Malaysia

Forests in Peninsular Malaysia can be grouped into three categories: ancient/managed forest (permanent reserve forest); unmanaged forested land; and alienated forested land (individual/state).³⁰ To reiterate, forest in this study refers to the first category of ancient/managed forest and permanent reserve forest; this forest is managed by the Forestry Departments of each state in Peninsular Malaysia. The forest management has its headquarters in Kuala Lumpur, led by the Director General of Forests. The jurisdiction of forests is further discussed in chapter three of the thesis.

Before going further to discuss forests in Peninsular Malaysia, it is important to establish and understand some basic facts about forests. It is believed that, in order to know about forests, it is necessary to understand the different types of forest. Forests in Peninsular Malaysia are known as tropical forests because Peninsular Malaysia has a tropical rainforest climate.

1.1.2.1 Tropical Forest

There are two main types of tropical forest: tropical moist forest and tropical dry forest. Firstly, tropical moist forests are evergreen and broadleaved with a closed canopy, receiving a plentiful amount of rainfall annually. Besides these characteristics, this kind of forest also contains an exceptionally high number of plant and animal species.³¹ A little over half of the world's remaining tropical moist forest is in Latin America, a fifth is in Africa and a quarter is in Southeast Asia. Tropical dry forest has its own characteristics; it often has an open canopy and may shed its leaves during its driest season. Tropical dry forest does not have as many species as moist forest, but it is still

³⁰ Interview with Director of Forest Management Unit, Forest Department Peninsular Malaysia on 18 Feb. 2008.

³¹ "World Climate", 1997, FAO-SDRN - Agrometeorology Group. 17 Feb. 2007 <<http://www.blueplanetbiomes.org/climate.htm/>>.

highly diverse and its trees tend to be smaller than those in moist forest and shrubbier in appearance. Two thirds of the world's dry forests are found in Africa, just under a third in Latin America and the remainder in the Asia-Pacific region.³² Hence, the characteristics of tropical moist forest and its situation are the best to describe forests in Peninsular Malaysia.

In order to have a clear view about tropical forests in Peninsular Malaysia, the FDPM has identified and recognized seven types of tropical forests in Peninsular Malaysia. They are Mangrove Forest (*Hutan Paya Laut*), Peat Swamp Forest (*Hutan Paya Gambut*), Lowland Dipterocarp Forest (*Hutan Dipterokarp Pamah*), Hill Dipterocarp Forest (*Hutan Dipterokarp Bukit*), Upper Hill Dipterocarp Forest (*Hutan Dipterokarp Atas*), Montane Forest (*Hutan Montane-Oak*) and Ericaceous Forest (*Hutan Gunung*).³³ These forest types are distinguished mainly by their structures, vegetation and altitudinal limits.³⁴

1.1.2.2 Types of Forest in Peninsular Malaysia

(a) Mangrove Forests

Mangrove forests are situated on thick muddy tidal flats at river mouths and along the coast.³⁵ Mangrove forests are closed forests with an even canopy made up of tree species that have adapted to being immersed in water and the salinity of sea water. The vegetation is simple in structure, varying from 6 metres to 25 metres in height and is made up of seventeen tree species from eight genera from four main families. The

³² See note 24.

³³ Jabatan Perhutanan Semenanjung Malaysia, Laman Web Rasmi JPSM, "Jenis-jenis Hutan", 12 Mar. 2006 <<http://www.jpsm.gov.my/jenishutan.html/>>. See also Ray, R.G., *Forestry and Forest Classification in Malaysia*, (Ottawa: Department of Fisheries and Forestry, 1968), 22.

³⁴ Ng, Yong Foo, *Flight Phenology, Diversity and Systematics of the Ichneumonid Wasps (Hymenoptera: Ichneumonidae) in Lowland Dipterocarp Forests*, (Thesis Ph.D, Universiti Kebangsaan Malaysia, Bangi, 2006), 13.

³⁵ Khairuddin Hj. Kamaruddin, *Hutan Hujan Tropika Semenanjung Malaysia*, (Kepong: Institut Penyelidikan Perhutanan Malaysia, 1992) 66.

families and genera are *Rhizophoraceae* (*bakau kurap/minyak*) (*Rhizophora*, *Bruguiera*, *Ceriops*, *Kandelia*), *Avicenniaceae* (*api-api*) (*Avicennia*), *Sonneratiaceae* (*gedabu/berembang/perepat*) (*Sonneratia*) and *Meliaceae* (*Xylocarpus* (*nyireh bunga/batu*), *Melaleuca*).³⁶ Mangrove trees are “halophytes”; this term refers to the trees’ ability to withstand the saline soil in which they are rooted. Peculiar rooting systems have helped mangrove trees to survive in the salty environment. The roots grow above ground and are exposed to the air so oxygen is made available to the root system. The functions of mangrove systems are invaluable; they stabilize the coastline, accelerate land extension, buffer against waves and storms, assimilate waste material and act as nursing grounds for many fish, thereby playing a vital role for the fishing industry.³⁷ In 2007, Datuk Seri Azmi Khalid, the Minister of Natural Resources and Environment, Malaysia, has stressed that the government encourages the project of permanent planting of mangrove plants along the coastal areas in order to prevent incidents such as flooding and the recent phenomenon of tsunami.³⁸

Conversion of mangrove forest into fishponds and prawn farms, salt beds, rice paddies, housing, commercial and industrial establishments will disrupt its functions. Other than these activities, mangrove timbers are exploited in order to supply firewood, charcoal and tanbark. Factory effluents and oil spills released into the sea will eventually kill mangrove vegetation and degrade its productivity.³⁹

According to statistics on commodities,⁴⁰ the remaining mangrove forest in Peninsular Malaysia is estimated at 0.10 million ha, in Sabah at 0.34 million ha and in Sarawak at

³⁶ *Id* at 66-68.

³⁷ Papastergiou, Spiros, *Canadian Project Forester “Study Paper 95/96” An Informative Overview of the Most Common Forest Types, Forest Pressures and Progress Towards Sustainable Tropical Forest Management in South East Asia*, (Kuala Lumpur: Asean Institute of Forest Management, 1996) 4-10.

³⁸ Opat Rattanach, “Tanam bakau elak bencana”, *Utusan Malaysia*, 26 January 2007, 8.

³⁹ See note 37 at 22.

⁴⁰ Malaysia, Ministry of Plantation Industries and Commodities, *Statistics on Commodities 2004*, (Putrajaya: Ministry of Plantation Industries and Commodities, 2004) 141.

0.14 million ha, amounting to a total of 0.58 million ha in Malaysia. This represents a decrease if compared to 1988 statistical data provided by the Forestry Department when the remaining mangrove forest in Malaysia was about 0.6 million hectares.⁴¹ However, the number of hectares in Peninsular Malaysia has increased to a total of 0.10 million ha as reported in the Forestry Statistics of 2011.⁴² The increase in the number of hectares shows diligent efforts on the part of government to enhance quality served by the mangrove forest.

(b) Peat Swamp Forest and Freshwater Swamp Forest

Peat swamp forests are found along coastal areas while fresh water swamp forests are normally found in river systems throughout the country. These forests have a more complex structure than mangrove forests. The peat swamp forest is constructed of three layers of trees. The lowest layer ranges in height from 10 metres to 20 metres above the ground; the second layer, the canopy, ranges from 30 metres to 70 metres and the third layer ranges in height from 35 metres to 40 metres. Plant species that occupy this habitat are mostly endemic species such as *Meranti*.⁴³ The species of trees are *Koompasia malaccensis* (*kempas*), *Anisoptera maginata* (*mersawa paya*), *Gonystylus bancanus* (*ramin melawis*) and *Shorea platycarpa* (*meranti paya*).⁴⁴ Peat swamp forests are found on soil high in organic content, i. e. more than 50 cm of organic peat. Peat is formed because decomposer microorganisms are unable to thrive in the high sulphide and salt conditions. As a result, nutrients are not made available for plant growth and, thus, vegetation is inadequate.⁴⁵

⁴¹ Malaysia: Ministry of Primary Industries, *Forestry in Malaysia*, (Kuala Lumpur: Ministry of Primary Industries, 1988). See also JPSM, *Forestry in Peninsular Malaysia*, (Kuala Lumpur: JPSM) 19.

⁴² See note 2.

⁴³ See note 35 at 69.

⁴⁴ *Ibid.*

⁴⁵ See note 37 at 5-6.

Freshwater alluvial swamp forests differ from peat swamp forests in terms of their structure. Their structure varies and is strictly dependent on the vegetation composition. *Artocarpus peduncularis* (terap), *Callophyllum* sp (bitangor), *Camposperma macrophylla* (terentang), *Alstonia spathulata* (pulai basong) and *Dipterocarpus coriaceus* (keruing paya) are among the common species found in this forest.⁴⁶

After exploitative logging occurs in peat swamp forests, weed trees tend to dominate; hence, the forest loses its value for timber production. The devaluation of the forest may lead to its draining and conversion into more valuable land use such as agriculture. Once the forest is opened up by logging, the remaining fuel load becomes highly flammable and forms a fire hazard during prolonged dry months or drought conditions.⁴⁷ Its absorptive ground is the main key to soaking up vast amounts of rainfall, particularly during the wet season. These forests are now under extreme threat where land activities such as conversion of the natural habitat into aquaculture and residential settlements have been carried out rampantly. In addition, its area of economically valuable trees is also diminishing due to excessive logging.⁴⁸

(c) Lowland Dipterocarp Forest

Dipterocarp tree species, which are mainly found in Peninsular Malaysia lowland, are much in demand in the Malaysian timber industry.⁴⁹ The lowland dipterocarp forest can be found at an elevation of less than 300 metres above sea level. In this forest, thousands of plant species are densely crowded together; however, they are dominated by the Dipterocarpaceae tree family (*meranti*, *mersawa*, *keruing*, *kapur*, *keladan*, *giam*,

⁴⁶ See note 35 at 68.

⁴⁷ See note 37 at 23.

⁴⁸ See note 34 at 14.

⁴⁹ Thang, Hooi Chiew, "Conserving Biological Diversity in Managed Tropical Forests, Country Studies: Asia, Malaysia", *Proceedings of a Workshop at Perth, Australia, Nov. 30 – Dec. 1, 1990*. Eds. Blockhus, J M, et al., (Cambridge: IUCN and ITTO, 1992), 50.

gerutu pasir). Over 240 species of trees are often found sharing a single hectare with shrubs, herbs, creepers and other plants. The lowland forest has a rich biodiversity that is evident at all levels in the forest from the canopy to the ground. Lowland forests are characterized by the conspicuous presence of thick climbers, large buttress trees and the prevalence of trees with tall, smooth-barked trunks. The canopies of the lowland forest trees typically form three layers. The emergent storey is usually about 30 metres to 45 metres high with trees that are intolerant to shade. The second tree layer consists of young trees of the upper storey species together with members of the families (types of timber) *Burseraceae*, *Guttiferae*, *Myristicaceae*, *Mytaceae* and *Sapotaceae*. The third layer consists of saplings of the upper two storeys together, with members of such families as *Annonaceae* and *Euphorbiaceae*.⁵⁰

(d) Hill Dipterocarp Forest

Located at higher altitudes ranging from 300 to 750 metres above sea level, this type of forest is the widest class of forests in Peninsular Malaysia. Plants species such as *Shorea curtisii* (*hutan permatang seraya*) are among the most dominant species of the larger trees in hill forests.⁵¹ In term of species, hill dipterocarp forest is similar to the lowland forests. The vegetation in this type of forest is more influenced by climate change since most of the plants found in this forest are shorter and smaller in size.⁵²

(e) Upper Hill Dipterocarp Forest

Situated on the higher hills between the approximate altitudinal limits of 762 metres to 1200 metres above sea level, the upper layer canopy in upper hill forest is shorter, with an approximate height of 24 metres to 30 metres. The trees have smaller diameters

⁵⁰ See note 35 at 62.

⁵¹ See note 35 at 63.

⁵² See note 34 at 15.

compared to those found in lowland and hill forests.⁵³ There is a lower level of species diversity in this type of forest, which is usually represented by just a few species. These plants include *Shorea platyclados* (*meranti bukit*), *Agathis borneensis* (*damar minyak*) and *Shorea submontana* (*balau gajah*).⁵⁴

(f) Montane Forest

This type of forest is also known as montane-oak forest. Located at between 1,200 metres and 1,500 metres above sea level, it consists of two layers with the upper layer at heights ranging from 35 metres to 40 metres. The forest also has less diversity in terms of flora and fauna and its climate is also different from the other forests; this forest is shrouded in mist and is usually damp. Thus, plant species such as conifers, i. e. the families *Fagaceae* and *Lauraceae*, are suited to such climatic conditions.⁵⁵

(g) Ericaceous Forest

This forest is situated at heights of 1,500m or more above sea level. It has a low level of plant diversity and has a simple structure of single-tree layers. Moss and lichen are the most abundant common plants. Others, including *Bambusa elegans* (*buluh bantut*) and *Gahnia tristis* (*lalang-rusiga tinggi*), are also very common.⁵⁶ At the peaks, there are a variety of fern species such as *Gleichenia sp* (*resam*), *matonia* and *Dipteris conjugat*.⁵⁷

Among these seven types of forests, the dipterocarp lowland forest type has been drastically deforested over the last few decades. With the disappearance of lowland

⁵³ See note 35 at 63.

⁵⁴ *Id* at 64.

⁵⁵ *Id* at 65.

⁵⁶ *Id* at 66.

⁵⁷ *Ibid*.

dipterocarp, the hill dipterocarp forest is now experiencing the brunt of logging and shifting cultivation pressures.⁵⁸ This situation can be seen in Table 1.1 below.

Table 1.1: Extent of forested land in Peninsular Malaysia for 1985, 1990, 1995, 2000, 2005 and 2011 (million ha)

Region	Year					
	1985	1990	1995	2000	2005	2011*
Peninsular Malaysia	6.35	6.27	5.89	5.94	5.88	5.81

Source: Forest Department Peninsular Malaysia.⁵⁹

* Official Website Forest Department Peninsular Malaysia.⁶⁰

From the above table it can be seen that, over a period of 20 years, forest in Peninsular Malaysia had decreased by 0.54 million ha, that is from 6.35 million ha in 1985 to 5.81 million ha in 2011. The decrease in the forest was primarily due to forest conversion for the purpose of development of oil palm plantations, providing land for the landless and also for the development of industrial and residential areas⁶¹ in which the rapidly growing population nowadays contributes greatly to the higher demand for forest conversion. Thang analysed the grounds for demanding forest conversion in Malaysia as follows:

“In fact, over the period 1985 to 2005, the total area under perennial agricultural tree crops had increased from 3.75 million ha to 5.5 million ha, an increase of 1.80 million ha, with areas under oil palm plantations more than doubling from 1.47 million ha in 1985 to 4.05 million ha in 2005. Over the same period, the population in Malaysia had also grown from 15.68 million in 1985 to 26.75 million in 2005 or an increase of 70.6 percent over the 20-year period.”⁶²

1.2 Literature Review

This research focuses on the legal analysis on law and policy on conservation of forests in Peninsular Malaysia. The first few chapters discuss the significance of the forest to be studied, along with the scientific areas of the forest. The Peninsular Malaysia⁶³ and

⁵⁸ See note 37 at 20-26.

⁵⁹ See note 1 at 44.

⁶⁰ See note 2.

⁶¹ See note 1.

⁶² *Ibid.*

⁶³ Laws of Malaysia The Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987; Laws Of Malaysia Federal Constitution; Law of Malaysia The Environmental Quality Act (Act 127); Laws of Malaysia The National

international legal instruments of the forest⁶⁴ are also discussed to gain a basic idea of the underlying principle informing the reason for conserving the forest. Several relevant provisions under the law and policy are highlighted in order to obtain a clear view of forest issues particularly in Peninsular Malaysia. Besides provisions under the law and policy, this study also addresses contemporary legal issues of forests in Peninsular Malaysia with data and information collected from various sources including primary sources of interview data and relevant statutes, as well as secondary sources such as books, journal articles, statistical data and reports.

From the literature it is obvious that, most authors even though, take different approaches; they are unanimous in their concern about the degradation of forests and also about environmental degradation at the international level. Their various approaches have helped the researcher throughout the study in the search for facts and information with regard to the law and policy instruments of conservation of forests in Peninsular Malaysia which call into question the activities of those engaged in the clearance of forested land.

Forestry Act 1984 (Act 313); Malaysia's National Policy on Biodiversity, Malaysia; Dasar Alam Sekitar Negara/National Policy on the Environment, 2002, Malaysia; The National Physical Plan 2; The National Forestry Policy 1978 (Revised 1992); The National Policy on Biological Diversity; Malaysia; The National Policy on the Environment, Malaysia; The Third National Agricultural Policy (1998-2010), Ministry of Agriculture Malaysia; Peninsular Malaysia: Ministry of Agriculture, Third National Agricultural Policy (1998-2010) Executive Summary; The National Agricultural Policy 1984, Later replaced by the National Agricultural Policy 1992-2010, Ministry of Agriculture, Kuala Lumpur; The Third National Agricultural Policy (1998-2010); The National Physical Plan 2005; Peninsular Malaysia; The Wildlife Conservation Act 2010 (Act 716).

⁶⁴ The Convention on Biological Diversity; The Convention concerning the Protection of the World Cultural and Natural Heritage; The Convention on International Trade in Endangered Species of Wild Fauna and Flora; The Convention on Wetlands of International Importance especially as Waterfowl Habitat; The International Tropical Timber Agreement; The Kyoto Protocol to the United Nations Framework Convention on Climate Change; The Non-legally binding instrument on all types of forests; The United Nations Declaration on the Rights of the Indigenous Peoples; The United Nations Framework Convention on Climate Change; The Report of the fourth session of the Intergovernmental Forum on Forests.

A number of literatures provide useful information on the situation regarding forests in Peninsular Malaysia. Khairuddin⁶⁵, Shaik Mohd Noor Alam⁶⁶ and Ray⁶⁷ have given a full picture of forests and legal aspect of it in Peninsular Malaysia in different period of 1990s, 1980s and 1960s. Within these respective periods, it can be seen that there were tremendous development of forestry sector in the aspect of both legal and conservation. Thang⁶⁸, in his forest outlook also scrutinised forests' status and trends where he elaborates on probable scenarios in the forestry sector in 2020, and is optimistic in nature. From these literatures, the researcher has gained a lot of information and knowledge on forests particularly in developing the introductory part of the thesis. *Forestry in Malaysia*⁶⁹ is a government publication and significant to be referred to as it has given an overview of the status and trends of forests in Peninsular Malaysia. It also highlights several important points ranging from constitutional provisions for forests, forestry policy and legislation, forest conservation and management, forestry and forest industries to international co-operation on forest-related issues. Kumari highlighted the legal provision for the multiple-use of forest provided under the National Forestry Act 1993 (NFA) and submitted that the State Forestry Department (SFD) management efforts is more towards the timber harvesting as compared to non-timber roles are that of secondary importance.⁷⁰ *Sahabat Alam Malaysia* (Friends of the Earth)⁷¹ from the Non-Governmental Organisation (NGO) revealed the real forest facts in Peninsular Malaysia. It presents an actual picture and statistical data for the reader to understand, thus giving him/her transparent information rather than that offered by other

⁶⁵ Khairuddin Hj. Kamaruddin, *Hutan Hujan Tropika Semenanjung Malaysia*, (Kepong: Institut Penyelidikan Perhutanan Malaysia, 1992). See also Forestry Department Peninsular Malaysia, *Forestry and the Environment A Collection of Dr. Mahathir's Speeches*, (Kuala Lumpur: FDP, 2000).

⁶⁶ Shaik Mohd Noor Alam bin Hussain, "Legal Aspects of Forestry", (1983) 1 *The Malaysian Current Law Journal* 64-65.

⁶⁷ Ray, R.G., *Forestry and Forest Classification in Malaysia*, (Ottawa: Department of Fisheries and Forestry, 1968). See also Brookfield, H, Lesley Potter and Yvonne Byron, *In Place of the Forest Environmental and Socio-economic Transformation in Borneo and the Eastern Malay Peninsula*, (Kuala Lumpur: United Nations University Press, 1995). See also Cherla, B. Sastry, P.B.L. Srivastava and Abdul Manap Ahmad et al, eds., *A New Era in Malaysian Forestry*, (Selangor: Universiti Pertanian Malaysia Press, 1977).

⁶⁸ Thang, Hooi Chiew, *Malaysia Forestry Outlook Study*, (Bangkok: FAO, 2009).

⁶⁹ Malaysia: Ministry of Primary Industries, *Forestry in Malaysia*, (Kuala Lumpur: Ministry of Primary Industries, 1988). See also JPSM, *Forestry in Peninsular Malaysia*, (Kuala Lumpur: JPSM).

⁷⁰ K. Kumari, *Is Malaysian Forest Policy and Legislation Conducive To Multiple-Use Forest Management?*, FAO Corporate Document Repository, <<http://www.fao.org/docrep/v7850e/v7850e1.htm>>.

⁷¹ Sahabat Alam Malaysia, *Malaysian Environment in Crisis*, (Penang: Sahabat Alam Malaysia, 2006).

information resources. The forest management situation in the region including Malaysia was addressed by Spiros.⁷² He also raised the issues, obstacles and management alternatives to help the region achieve sustainable tropical forest management. Another constructive commentary by Hammond⁷³ is on comparative forest policy in several selected countries addressed the background of forest and its associated problems in Peninsular Malaysia. Repetto and Malcolm Gillis⁷⁴ however, addressed forest issues from a different perspective of respective states. They also highlight the implications of forest policies for depletion of forest resources. Sulong and Katiman outlined significant history and evolution of land development in Malaysia by respective government and private agencies for instances FELDA, FELCRA, RISDA, Tabung Haji and also private company that involved substantial areas of forest conversion.⁷⁵ The importance of having sustainable agriculture and forest environment is also emphasized in a study⁷⁶ where it is submitted that there is a need for sustainable land use systems. Thus, the earth is at risk of being lost if it is not properly managed.⁷⁷

The importance of conservation of biodiversity and the issue of depleted forests in Malaysia has been clarified by Abdul Haseeb Ansari.⁷⁸ In the issue of forest fire, Azmi Sharom⁷⁹ elaborates on the phenomenon of burning forests in Indonesia which involved monetary costs to the region of US\$1.3 billion; there was great damage to biodiversity and human health was also affected as the Air Pollutant Index (API) reached dangerous

⁷² Papastergiou, Spiros, *Canadian Project Forester "Study Paper 95/96" An Informative Overview of the Most Common Forest Types, Forest Pressures and Progress Towards Sustainable Tropical Forest Management in South East Asia*, (Kuala Lumpur: Asean Institute of Forest Management, 1996).

⁷³ Hammond, Don, *Commentary on Forest Policy in the Asia-Pacific Region (A review for Indonesia, Malaysia, New Zealand, Papua New Guinea, Philipines, Thailand and Western Samoa)*, (Thailand: Asia-Pacific Forestry Commission, 1997).

⁷⁴ Repetto, R and, Malcolm Gillis, eds., *Public policies and the misuse of forest resources A World Resources Institute Book*, (New York: Cambridge University Press, 1988).

⁷⁵ Sulong Mohamad and Katiman Rostam, *Menempa Kemakmuran di Bumi Bertuah... Pembangunan Tanah di Malaysia*, (Kuala Lumpur: Federal Land Development Authority (FELDA), 2007).

⁷⁶ National Research Council, *Sustainable Agriculture and the Environment in the Humid Tropics*, (Washington, D.C: National Academy Press, 1993).

⁷⁷ *Ibid.*

⁷⁸ Abdul Haseeb Ansari, "Socio-Legal Issues in Biodiversity Conservation: A Critical Appraisal With Special Reference to Malaysia", (2001) 4 *The Malayan Law Journal* xxii.

⁷⁹ Azmi Sharom, "Untying the Gordian Knot: Extending Jurisdiction To Combat Transboundary Haze Pollution", (2005) 1 *The Malayan Law Journal* lxxxviii.

levels. The author stressed the inadequacies in the laws and policies to control potentially disastrous environmental consequences. Focussing on environmental threats and degradation in several countries Thompson et al.,⁸⁰ point out trends and threats to forests, and this information would lead the researcher to identify such particular issues in Peninsular Malaysia. Despite the issue on depletion of forest in Peninsular Malaysia, it has been reported that illegal logging is now under control and no longer the main problem of forest loss.⁸¹

In discussing international law, Tunku Sofiah Jewa⁸² has provided the fundamental understanding of International Law. She provides a clear outline of public international law which readers will find much easier to understand. Hughes, D, et al.⁸³ contribute to the understanding of the environmental law; the way in which these authors highlighted the issues of environmental degradation was constructive for the researcher. O. Brooks, Richard, Ross Jones and Ross A. Virginia⁸⁴ have highlighted several issues on environmental problems particularly the difficulty of maintaining balanced ecosystems in the present era.

Modern forestry legislation requires endless efforts in dealing with various issues.⁸⁵ It needs involvement of all forest stakeholders in order to have a workable and sound

⁸⁰ Thompson, I, et al., *Review of the Status and Trends of, and Major Threats to, Forest Biological Diversity*, (Canada: Secretariat of the Convention on Biological Diversity, 2002).

⁸¹ Thang, Hooi Chiew, *Malaysia Forestry Outlook Study*, (Bangkok: FAO, 2009).

⁸² Tunku Sofiah Jewa, *Public International Law: A Malaysian Perspective*, (Kuala Lumpur: Pacifica Publications, 1996). See also Sinha, Prabhas Chandra, *Guidelines For Human Environment and Sustainable Development*, (New Delhi: SBS Publishers & Distributors Pvt. Ltd., 2006). See also Mohd Afandi Salleh, *International Environmental Conventions and Treaties*, (Petaling Jaya: International Law Book Series, 2002). See also Cullet, Philippe and Gowlland-Gualtieri, *Key Materials in International Environmental Law*, (England: Ashgate, 2004). See also M.Sabri Yusof, *International Environmental Law*, (Kuala Lumpur: International Law Book Series, 2000).

⁸³ Hughes, D, et al., *Environmental Law*, 4th ed., (London: Butterwoths LexisNexis, 2002). See also N.S. Subramaniam and A.V.S.S. Sambamurty, *Ecology*, 2nd ed., (Oxford: Alpha Science, 2006). Other books on the Environmental Law referring to other states than UK are also enlightened. See also Farrier, D and Paul Stein, *The Environmental Law Handbook Planning and Land Use in NSW*, 4th ed., (Sydney: RLCP, 2006). See also Kubasek, N K. and Gary S. Silverman, *Environmental Law*, 4th ed.,(US: Prentice Hall, 2002). See also Dauvergne, P, *Loggers and Degradation in the Asia-Pacific Corporations and Environmental Management*, (Cambridge: Cambridge University Press, 2001).

⁸⁴ O. Brooks, R, Ross Jones and Ross A. Virginia, *Law and Ecology: The Rise of the Ecosystem Regime*, (England: Ashgate, 2002). See also Watson, R T, et al., *Land Use, Land-Use Change, and Forestry*, (Cambridge: Cambridge University Press, 2000).

⁸⁵ Lawrence C. Christy et al. *Forest Law and Sustainable Development Addressing Contemporary Challenges Through Legal Reform*, (Washington: The World Bank, 2007).

legislation.⁸⁶ Lawrence highlighted that modern drafters must refer to international law where policies derived from it are now of great influence *inter alia* sustainable development.⁸⁷ Since the Declaration in Rio, constructive forest progress has been made and this is considered as achievement of the international cooperation on forest.⁸⁸ Malaysia has ratified and also a party to various international conventions related to forest and environment thus, showing serious commitment in ensuring the sustainability of forest in Malaysia.⁸⁹

Besides issues of forest degradation, the issue of Orang Asli is also highlighted in this study. Several important literatures, such as written by Lim Hin Fui⁹⁰, have given details on the background of Orang Asli in Peninsular Malaysia. This book, which was written in the 90s, explains Orang Asli's status and living conditions in that particular era. Another literature that has provided knowledge on the rights of the public, including Orang Asli, is published by the Article 19 and the Centre for Independent Journalism.⁹¹ It provides an in-depth discussion on the right of the public to environmental information. Shiva⁹² made a critique of the Tropical Forests: A Call for Action prepared by the World Resource Institute (WRI) that failed to consider people's rights to forest and the author wiped out the myth of the WRI saying that local people who destroy tropical forest. Therefore, all categories of forest stakeholders should be genuinely involved in dealing with workable modern forestry legislation.⁹³

⁸⁶ *Ibid.*

⁸⁷ *Ibid.*

⁸⁸ Sinha, Prabhas Chandra, Ed., *Guidelines for Human Environment and Sustainable Development*, (New Delhi: SBS Publishers & Distributors Pvt. Ltd., 2006).

⁸⁹ Mohd Yunus, Z et al., *International Forest-Related Agreements and Sustainable Forest Management With Reference To Peninsular Malaysia*, Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 20-21 Mar. 2007, The National Conference on the Management and Conservation of Forest Biodiversity in Malaysia, CD ROM, (Putrajaya: Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 2007).

⁹⁰ Lim Hin Fui, *Orang Asli, Forest and Development*, (FRIM: Kuala Lumpur, 1997).

⁹¹ Centre of Independent Journalism, *Haze of Secrecy Access to Environmental Information in Malaysia*, (Kuala Lumpur: ARTICLE 19 and CIJ, 2007). See also Eccleston, C.H, *Effective Environmental Assessments How to Manage and Prepare NEPA EAs*, (CRC Press LLC: Florida, 2001).

⁹² Vandana Shiva, *Forestry Crisis and Forestry Myths A Critical Review of Tropical Forests: A Call for Action*, (Penang: World Rainforest Movement, 1987).

⁹³ Lawrence C. Christy et al. *Forest Law and Sustainable Development Addressing Contemporary Challenges Through Legal Reform*, (Washington: The World Bank, 2007).

Several articles on Orang Asli and their rights have also assisted in bringing into focus the contemporary issues which need to be studied. Wiessner⁹⁴ has highlighted the provisions of the UNDRIP by elaborating on the rights of indigenous people. Nicholas transparently discussed current issues of Orang Asli in Peninsular Malaysia⁹⁵, for instance the role of Orang Asli in protected area, Orang Asli's role in preserving their traditional knowledge and customs, and the responsibility of the authorities to recognize their rights, especially the right to land ownership.

Several remarkable cases are highlighted in order to see judicial interpretation of forest law and policy. The case of *Mamat bin Daud*⁹⁶ shows the important role of the Court in its approach to interpreting the indirect meaning of legislation, thus protecting the state authority from being jeopardized by the federal government. In the case of *Awang @ Harun bin Ismail & Ors v Kerajaan Negeri Kedah & Ors*⁹⁷ the court arrived at a remarkable decision of protecting public rights from being violated by the defendant. However, in the case of *Bakun*⁹⁸ a different approach of our court can be seen in dealing with the public's rights to environment. Several other relevant cases are cited in the discussion chapter to support related argument.

Other sources of literature which provided help in analysing the data include annual reports and statistical data from various governmental agencies such as the Forestry Department Peninsular Malaysia, the Ministry of Primary Industries and Commodities

⁹⁴ Wiessner, S, The Hague Conference (2010) Rights of Indigenous Peoples 1 Dec. 2012 <www.ila-hq.org/.../9E2AEDEG9-BB41-42BA-9999FO359E79F62D

⁹⁵ Nicholas, Colin, "Participation and Recognition of Orang Asli as Stakeholders in Protected Areas Management", *National Workshop on "Protected Areas Management: Direction for the Future"*, (Kuala Lumpur, 14-16 Jan. 2002). See also Nicholas, Colin, "For the Good of All Indigenous People and Biodiversity", published in *the Star (Environment)*, 3 Feb. 2004. See also Nicholas, Colin, "Who Can Protect Forest Better? Pitching Orang Asli against Professionals in Protected Area Management in Peninsular Malaysia", *International Symposium on Eco-Human Interactions in Tropical Forest*, (Kyoto University, 13-14 June 2005).

⁹⁶ *Mamat bin Daud & Ors v Government of Malaysia* [1988] 1 MLJ 119, SC.

⁹⁷ *Awang @ Harun bin Ismail & Ors v Kerajaan Negeri Kedah & Ors* [2010] 4 MLJ 83.

⁹⁸ *Ketua Pengarah Jabatan Alam Sekitar & Anor v Kajing Tubek & Ors* [1997] 3 MLJ 23.

and the Department for Orang Asli's Development. The Manual of Forests produced by the Forestry Department also supported the study with its precise data and information on forests in Peninsular Malaysia.

Thus, from the review of literatures it can be seen that most of the studies have addressed forest issue of Peninsular Malaysia as a whole without highlighting specifically the forest issue in those respective states in Peninsular Malaysia. It is significant to note that forest is under the state jurisdiction as provided under the Federal Constitution. Therefore, this study proposes for a need to analyse the law and policy on forest conservation in Peninsular Malaysia by comparing forest conservation practiced by the ten State Forestry Departments (SFDs) in Peninsular Malaysia. For this purpose, the outcome from the interview is to be referred to in discussing cotemporary legal issues on forest. This is important to strengthen the argument and it is also significant to examine whether the Environmental Principles related to forest conservation recognized in the international level has been instilled in the forest law and policy of Peninsular Malaysia.

1.3 Statement of the Problem and Objectives of the Study

Since the era of industrial revolution started and flourished fast, no one seems to bother with protection and conservation of the environment. Industries had free hand, they could pollute processes of the environment to any extent. Forests were chopped down for the purpose of development by not realizing the important of conservation of biodiversity. At that time what was the most important is development for boosting their economies. It was only in the seventies at the conclusion of the United Nations Conference in Human Environment 1972 (UNCHE) where states took serious notice of environmental degradation and its conservation. They started thinking to strike a

balance between development and preservation of the environment. Moreover, presently at the environmental seminar and conference, world are debating and criticizing upon lacking of sense of responsibility by some people who destroyed forests for the purpose of developing industrial area, high-cost houses, and etc. in order to generate their profits and income without thinking of replanting the trees. Some of these people do not obey the rules and guidelines which have been gazette for the purpose of protecting the forest environment. In many instances lands were altered without long-term strategy as species were relentlessly cleared for building and burning. These activities would not affect the habitat of flora and fauna but also affects the livelihoods of forest-dependent communities. Hence the world are talking about the importance of sustaining the forest biodiversity, are we ensuing the track?

In the light of the above problem statement primarily, this study aims to explore the existing forest conservation law and policy in Peninsular Malaysia, which is the National Forestry Act 1984 and the National Forestry Policy 1978 (Revised 1992) from the Environmental Law perspective. This is done to assess the survival chances of the forest in Peninsular Malaysia over the coming years. Hence, to meet the primary aim of the study, the following objectives are to be studied and discussed.

The first objective of the study is to examine current knowledge of the forest and the various activities that contribute to the destruction of forest in Peninsular Malaysia in order to gain further understanding of forest issues. Secondly, it is vital to analyse the jurisdiction of the federal and state governments of Peninsular Malaysia with regard to conservation of the forest.

Thirdly, by studying the existing law and policy on forest conservation in Peninsular Malaysia as well as international approaches and treaties, the deficiencies and inadequacies of the relevant and related law and policy pertaining to the conservation of forest can be analysed.

Fourthly, various forest issues will be highlighted in order to consider the practices of the forest conservator in dealing with forest and environmental issues.

Beyond discussing various issues relating to the forest, the fifth objective of the study is to discuss the issue of public participation in forest conservation by stakeholders, indigenous peoples and environmental Non-Governmental Organisations (NGOs) with respect to their involvement in the process of conserving the forest in Peninsular Malaysia. The discussion of public participation in the forest is considered significant in complementing the topic of the thesis.

The sixth objective is to analyse the application and adaptation of international law arrangements to the Environmental Law principles by the forest legislation and also the forest conservator's practices and approaches to forest conservation in Peninsular Malaysia.

1.4 Structure of the Thesis

Altogether this study consists of seven chapters. The first and second chapters comprise the introductory part where the researcher explains the objectives, scope and methodology of the study and also provides a general discussion about forests. This general discussion in the first chapter covers information and knowledge about forests in Peninsular Malaysia, including the definition of tropical forest and also different

types of forest.⁹⁹ This part directs the reader to the type of forest to which this study refers.

The second chapter consists of a discussion on the significance of forests for the environment. The chapter elaborates on a general and scientific discussion of forests and also addresses contemporary issues concerning the development of forests, including a general discussion on threats to forests in Peninsular Malaysia. All in all, this chapter intends to address and highlight the significance of forests' survival and the multiple benefits that forests notably provide for Peninsular Malaysia and also for the whole world.¹⁰⁰

The jurisdiction of federal and state governments over the conservation of forests in Peninsular Malaysia under the Federal Constitution of Malaysia is the preliminary legal issue to be discussed in the third chapter of the thesis. The relationship of federal, state governments and also other forest stakeholders in regard to conservation of forests will be highlighted. Overall, chapter three discusses the conflict of interest between forest stakeholders in respect of forest resources and the complexity of the law dealing with forest conservation legal issues.¹⁰¹

The fourth chapter contains a discussion of Peninsular Malaysia and international forest conservation-related legal content. Several Environmental Principles relating to forest conservation are drawn from the international legal content to examine the realization of those principles in the context of Peninsular Malaysia.¹⁰²

⁹⁹ Fulfilling the first objective of the thesis.

¹⁰⁰ *Ibid.*

¹⁰¹ Fulfilling the second objective of the thesis.

¹⁰² Fulfilling the third objective of the thesis.

After discussing forest knowledge, legislation and legal approach in the previous chapters, chapters five and six go further to highlight contemporary issues of forest conservation in Peninsular Malaysia. Chapter five of the thesis specifically analyses forest conservation issues according to established themes that is based on the findings of the conducted interview with all State Forestry Departments in Peninsular Malaysia.¹⁰³ Chapter six analyses current legal issues concerning human rights privileges and interests of the forest communities. Chapter six complements the topic of the thesis because the study of the law and policy on forest conservation in Peninsular Malaysia will be completed by a discussion on public rights in forests. The legal issue of the right to public participation in the decision-making process of forest conservation in Peninsular Malaysia, especially those whose lives are affected by the unfettered and rapid development, in particular the Orang Asli, will also be studied along with the participation of the environmental NGO.¹⁰⁴

Chapter seven concludes the thesis. This chapter highlights the findings on the application of Environmental Principles on the forest legislation and the practices of the SFD in forest conservation. This is done in order to assess the competence of the forest law and policy of Peninsular Malaysia in upholding the Environmental Principles recognised by the international arrangements for sustaining forests in future years. The chapter ends with the thesis recommendations and concluding thoughts based on discussions in the earlier chapters.¹⁰⁵

¹⁰³ Fulfilling the fourth objective of the thesis.

¹⁰⁴ Fulfilling the fifth objective of the thesis.

¹⁰⁵ Fulfilling the sixth objective of the thesis.

1.5 Scope of the Thesis

1.5.1 Lacking of Study on Law and Policy on Forest Conservation in Peninsular Malaysia

In this study, existing forest laws and policies in Peninsular Malaysia are studied in order to analyse the application of the Environmental Law principles recognized at the international level in forest conservation practices for every state in Peninsular Malaysia. Although there have been several discussions and studies relating to forest conservation in Malaysia, to the best of the researcher's knowledge there are lots of research and writing on forest in East Malaysia (Sabah and Sarawak) as compared to forest in Peninsular Malaysia particularly on its conservation law and policy¹⁰⁶. Realising the need of sustaining and conserving forest in Peninsular Malaysia as important as forest in East Malaysia (Sabah and Sarawak), the researcher finds that it will be practical and useful to conduct a study on forest conservation in Peninsular Malaysia. After all, if to include Sabah and Sarawak, it would involve different set of forest laws as well as wide-ranging differences in the political, social and economic condition.

1.5.2 A Study Based on Particular Period

A semi-structured interview has been conducted between October 2007 and October 2012 that involved respondents who are forests experts and also those closest to forests. These respective years are significant for this study because it is based on the current

¹⁰⁶ See Hirsch, P. and Carol Warren, eds., *The Politics of Environment in Southeast Asia Resources and Resistance*, (New York: London and New York, 1998), 93. See also Blockhus, J et al., eds. *Conserving Biological Diversity in Managed Tropical Forests*, (IUCN/ITTO: Gland, Switzerland and Cambridge, 1992). See also Dauvergne, P., *Loggers and Degradation in the Asia-Pacific Corporations and Environmental Management*, (Cambridge: Cambridge University Press, 2001), See Yong Hoi Sen, ed., "Biodiversity and National Development: Achievements, Opportunities and Challenges", (Kuala Lumpur: Akademi Sains Malaysia, 2009) *Proceedings of the Conference Biodiversity and National Development: Achievements, Opportunities and Challenges* held in Kuala Lumpur from 28-30 May 2008 - See L.N. Ambu, A. Tuuga, and T.P. Malim, "The Role of Local Communities in Sustainable Utilization of Protected Wildlife in Sabah", See Y.T. Chia, "From a Library of Indigenous Plants to Natural Product Discovery and Development: On-going Sarawak's Experience", See also W. Landong, "Evolution of Policies and Legislation in Conserving Biodiversity Resources in Sarawak: The Wild Life Protection Ordinance and the National Parks and Nature Reserve Ordinance", See O.B. Tisen, "Biodiversity in Recreation Sarawak's National Parks and Nature Reserves".

period of Peninsular Malaysia Forest Management Plan that is from the year of 2006 to 2015. Therefore, the findings of the thesis could be considered relevant for the purpose of improving the next Forest Management Plan. Thus, this particular information and opinion gathered during period of the interviews is referred throughout the thesis especially to establish the discussion in chapter five and six of the thesis. The researcher has taken substantial period to complete the interviews due to bureaucracy.

1.5.3 A Study on Forests and Forest-Related Matters in Peninsular Malaysia

The focus of this study is on the conservation of forests in Peninsular Malaysia. It is also to be noted that this study is specifically addressed forests. However, fauna or animal living in it is directly linked to forest conservation from various perspectives including that of law and administration. The Wildlife Conservation Act 2010 (the Act) consists of provisions on wildlife reserved and also wildlife sanctuary that are directly relevant to forest conservation and must be read together with the National Forestry Act 1984 (NFA). Besides that, the Act aslo contains provision on Orang Asli which is also discussed in the thesis. In Peninsular Malaysia, forests and animals or fauna living in them are dealt with under different jurisdictions. Animals in the forest are under the jurisdiction of *Jabatan Perlindungan Hidupan Liar dan Taman Negara Semenanjung Malaysia*/Department of Wildlife and National Parks Peninsular Malaysia (PERHILITAN/DWNP), while forests are under the jurisdiction of the SFD of Peninsular Malaysia. Thus, in order to produce a narrower and more focused outcome, the utmost forest-related matters or issues relating to forest conservation in Peninsular Malaysia will be discussed in the thesis.

1.5.4 A Study on the Existing System of Forest Conservation in Peninsular Malaysia

A considerable amount of forest encroachment has been reported throughout the media recently and this shows that forests in Peninsular Malaysia are at a dangerous stage. Forests are being degraded every year by illegal logging and other activities such as illegal agricultural encroachment, illegal squatting, et cetera. Nonetheless, in the mid-20th century (1955 to 1980), the conversion of natural forest to permanent agricultural activity was the leading factor in deforestation.¹⁰⁷ Illegal activities in the forest were no longer the main contributors to forest destruction; instead, legal operations were to blame, such as forest-clearing for various purposes including legal logging with licenses for the development of industrial and residential areas, large-scale agricultural and vegetable plantations, et cetera. Thus, to resolve this situation, holistic and mandatory approaches by forest stakeholders are vital since the current approach has clearly been ineffective. Thus, it is significant to note that, this study works within the current system for betterments and harmonisation.

Therefore, in response to the above-mentioned situation in the forests it is vital to study and analyse the principal Act on forests in Peninsular Malaysia, the National Forestry Act 1984 and its Policy 1978 (Revised 1992), in order to gain a better understanding of the approach to forest conservation in Peninsular Malaysia. It is also significant to study whether this legal instrument on forests in Peninsular Malaysia can sustain forests in future years for the benefit of future generations. Other forests legal content such as the Federal Constitution, the Malaysian Plans and the National Physical Plan are also studied. Relevant international forest legal content is also discussed, as mentioned earlier, including the UNFCCC and the Kyoto Protocol, the RAMSAR Convention on Wetlands, the CBD, the CITES, the ITTA, et cetera.

¹⁰⁷ Repetto, R. and Malcolm Gillis, eds., *Public policies and the misuse of forest resources A World Resources Institute Book*, (New York: Cambridge University Press, 1988), 154. See also Rahmat Othman, "Pembalakan Haram Ketika Cuti Aidilfitri, *Berita Minggu* 21 Oct. 2007.

1.5.5 A Comparison between Malaysian and International Perspectives on Conservation of Forest

“The best way to reduce the felling of trees and destruction of the forests is to make every tree felled yield maximum returns. This can be done by increasing the price of timber, by reducing the cost of extraction, by adding value to the maximum before exporting. If all these are done then countries which depend on timber for their economic development need not extract timber in an unsustainable way. The worst thing to do if we want to minimize timber extraction is to impoverish timber-producing countries. Therefore, there is need for the appropriate global policies to be put in place to ensure fair and equitable international trading practices and market access particularly for timber products.”¹⁰⁸

This keynote address by the former Prime Minister, Tun Dr. Mahathir Mohamad, emphasised that, in order to achieve a balanced and stabilized ecosystem, thus preparing a safe environment for the present and future generations, the developed countries need to cooperate with the developing countries. It would be unfair to blame the developing countries for the felling of trees and destruction of forests, despite various efforts towards the conservation of forests being conducted by forest managers and conservators.

In terms of international commitments towards conservation of forests, particularly involving Peninsular Malaysia, there are currently several international legally-binding instruments addressing forestry issues. These include the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitats 1972 which Malaysia ratified on 10 November 1994, the UNFCCC which was ratified by Malaysia

¹⁰⁸ Mahathir Mohamad, “Opening Address at International Timber Conference”, *Malaysian Timber Board and Malaysian Timber Council*, Nikko Hotel, Kuala Lumpur, 3 Mar. 1998. See also Foo Yee Ping, “Our Right To Convert Forests Malaysia Pushes For More Development”, *The Star*, 26 Sept. 2007. See also Kubasek, N K. and Gary S. Silverman, *Environmental Law*, 4th ed., (US: Prentice Hall, 2002), 348-349.

on 13 July 1994, the CBD which was ratified by Malaysia on 24 June 1994, and the Kyoto Protocol to the UNFCCC which Malaysia ratified on 4 September 2002. Malaysia also signed and ratified the ITTA 1993 and 1994 on 14 February 1995 and 1 March 1995 separately. Moreover, the CITES was also ratified by Malaysia in 1978.¹⁰⁹

The contents of these instruments have indeed addressed forest issues in specific contexts, embodying numerous Environmental Principles and addressing many cross-cutting issues relevant to forests, including financial resources, technology transfer and trade. Nevertheless, most of these instruments, such as CBD, UNFCCC and UNCCD, are framework agreements containing overall goals and policies rather than detailed implementation plans which are determined by individual parties to the instruments.¹¹⁰

1.6 Methodology

1.6.1 Qualitative Research¹¹¹

This research employs a combination of general doctrinal approach¹¹² and interview¹¹³. These research approaches are chosen to substitute gathered data and literature with current and direct experts' opinion and discussion.¹¹⁴ It is also involves other approaches of legal studies¹¹⁵ inter alia descriptive and exploratory¹¹⁶, explanatory¹¹⁷ comparative¹¹⁸ as well as analytical and critical studies¹¹⁹.

¹⁰⁹ See note 1 at 43.

¹¹⁰ See note 26.

¹¹¹ Anwarul Yaqin, *Legal Research and Writing*, (Kelana Jaya, Malaysia: LexisNexis, 2007), 138-139. See also Anwarul Yaqin p 239 "The aim of qualitative research is to ascertain opinions..."

¹¹² See note 111 at 10. The general doctrinal approach here refers to examine and analyse related legal instruments and literature.

¹¹³ See note 111 at 13, 239, "The main forms of qualitative research include field observation, content analysis, group studies and in-depth interviews."

¹¹⁴ *Ibid.*

¹¹⁵ See note 111 at 19. "...the research in most cases involves the use of more than one approach."

¹¹⁶ Descriptive and exploratory studies confine to the first objective of the thesis. Exploratory study refers to the fourth, fifth and sixth objectives of the thesis. See Anwarul Yaqin, *Legal Research and Writing*, (Kelana Jaya, Malaysia: LexisNexis, 2007), 15.

¹¹⁷ Explanatory study refers to the second and third objectives of the thesis. See Anwarul Yaqin, *Legal Research and Writing*, (Kelana Jaya, Malaysia: LexisNexis, 2007), 15-16.

¹¹⁸ Comparative study refers to the fourth and fifth objectives of the thesis. The thesis seeks to compare forest management practices between all State Forestry Departments (SFDs) in Peninsular Malaysia by specifically relying on doctrinal research and in-depth interviews. See Anwarul Yaqin, *Legal Research and Writing*, (Kelana Jaya, Malaysia: LexisNexis, 2007), 18-19.

Apart from the study on general principles of law and policy pertaining to the International and Malaysian forest legal framework that is primary sources¹²⁰ of the study, a study of the secondary sources¹²¹ on significant of sustaining the forest based on scientific information and also forest official report are also emphasized to fully understand the nature and concept of law in context.

This study attempts to generate more knowledge on the relevant laws relating to conservation of forest in Peninsular Malaysia besides analysing Environmental Principles derived from the International Law in order to see the application of these principles in Peninsular Malaysia forest legislation. For instances, it examines the National Forestry Act 1984 and the National Forestry Policy 1978 (Revised 1992), and, at the international level, the Environmental Principles on sustainable development, precautionary approach and polluter pays that have been drawn from the Stockholm Declaration, the Rio Declaration and several other related legislation on forests. Additional direct information on various forest issues is gathered from personal interviews with forest conservators, the officers from the related government departments and also the Non-Governmental Organisation (NGO) officers; this is further explained in the next section on the Peninsular Malaysian Fieldwork. This additional direct information is intended to support the available data from the library research; the direct information is different from that obtained by the library research because the information and opinions are directly given by the forest experts or conservators.

¹¹⁹ Analytical and critical study refers to the sixth objective of the thesis, ultimately to justify the primary aims of the thesis. See Anwarul Yaqin, *Legal Research and Writing*, (Kelana Jaya, Malaysia: LexisNexis, 2007), 16-17.

¹²⁰ See note 111 at 49.

¹²¹ *Ibid.*

1.6.1.1 Library Research

This study involved library and internet research for data collection with reference mainly to the primary sources, i.e. relevant statutes, and secondary sources, i.e. books, articles and also official reports on the relevant subject matter. Thus, the fundamental research will be based mainly on the legal analysis of Malaysian law on conservation of forest biodiversity and International law. The main libraries to have been visited are the Forest Research Institute of Malaysia (FRIM) Library in Kepong and the University of Putra Malaysia (UPM). Other libraries include University Malaya (UM) Library, International Islamic University of Malaysia (IIUM) Library, Forestry Department of Peninsular Malaysia Library, Department of Environment, Malaysia and the Department of Orang Asli Development, Malaysia.

1.6.1.2 The Peninsular Malaysian Fieldwork

Semi-structured interviews have been conducted to seek direct information and fresh opinions from those closest to the forests or the forest experts throughout the study (2007-2012). These interviews are semi-structured interviews and not structured interviews because the questions were constructed for the interviewees to speak freely and give detailed opinions about each question or topic hence, not an open-ended type of question.¹²² The outcomes of the interviews (transcribed interviews) are discussed in thematic approach in the chapter five and chapter six of the thesis. The themes are constructed based on identified forest issues gathered during the interviews. Both chapters (five and six) have answered the fourth and fifth objectives of the study.¹²³

¹²² See note 111 at 171.

¹²³ See Chapter 1, para 1.4.

For the purpose of this study, the researcher has able to interview forest officers (the Director and the Assistant Director) from eight SFD out of total ten SFD in Peninsular Malaysia.¹²⁴ However, in the course of this fieldwork the Kedah and Pahang SFD were reluctant to cooperate and answer the questions provided. Nonetheless, with the statistical data provided by the headquarters of the Forestry Department of Peninsular Malaysia, the researcher is able to complete the analysis. Besides that, the researcher has approached several environmental NGOs such as the Malaysian Nature Society, the World Wide Fund for Nature (WWF), Petaling Jaya and also *Sahabat Alam Malaysia*, Penang (SAM) for the interview. Nonetheless, the SAM is the only environmental NGO response and provides the researcher with lots of current information and documents. Other related government department such as the Department of Environment and the Department of Orang Asli Development are also approached for interview by the researcher. It is important for the researcher to interview the forest officers of all SFD in Peninsular Malaysia and also the environmental NGO in order to gain forest experts comparative views on forest conservation practices and approaches issues in Peninsular Malaysia pre-identified by the researcher as specified in the sets of questions. It is also important in order to find direct sources from the experts on the actual scenario of conservation of forest in Peninsular Malaysia. The interview is also significant in the sense that it helps to support and strengthen this qualitative research.

With respect to the background of the interviewees, the Forest Director holds the top post in the SFD and is assisted by the Assistant Director. Their educational backgrounds include degrees in forestry. They receive forestry training in local forest institutions and also in international forest institution or forums to enhance their skills and knowledge of

¹²⁴ The Forestry Department of Peninsular Malaysia (Head Quarters), the SFDs of Negeri Sembilan/Melaka, Kelantan, Perlis, Selangor, Terengganu, Johor, Pulau Pinang and Perak. See also Anwarul Yaqin, *Legal Research and Writing*, (Kelana Jaya, Malaysia: LexisNexis, 2007), 139. "In qualitative research, the number of people, groups or communities selected are usually small, compared with survey research ...".

forestry. The NGO personnel are very dedicated and skillful environmentalists with broad knowledge of forest. They are continuously engaged in forest issues, especially those involving the rights of the public regarding forest.

For the purpose of the interviews, the researcher has prepared three sets of questions¹²⁵ which were distributed to groups of interviewees, *inter alia* the Forestry Department of Peninsular Malaysia, SFDs and NGO. These sets of questions were prepared for the interviewees to answer and it should be noted that the questions had to be modified depending on the jurisdiction and scope of power of the interview subject.

The questionnaires for this fieldwork are shown in the following Appendices:

- Appendix II (a) - FDPM (Head Quarters), SFDs and NGOs.
- Appendix II (b) - Department of Orang Asli Development/JAKOA; and
- Appendix II (c); and Forestry Department (Head Quarter and states) and *Sahabat Alam Malaysia* (Friends of the Earth Malaysia-NGO) on Public Participation in Forest Conservation

The researcher believes that, by analyzing information and data according to the above-mentioned themes, it will be possible later to justify the premise of the study.

1.7 Summary

Forests in Peninsular Malaysia are diverse in its existence and also home to unlimited biological diversity. In the rapidly globalized borderless world, the global environmental impacts of forest and forest-related activities in individual countries have caused much concern in other countries. Hence, there is an urgent need for an

¹²⁵ See Appendix II (a)-(c).

appropriate global convention governing forests; at the same time, developed and developing countries must work hand in hand, cooperating and providing assistance, be it financial or technical, in the conservation, utilization and sustainable management of forests at national and global levels.¹²⁶

Therefore, because forests in Peninsular Malaysia are being depleted, those in authority should devise a plan establishing that there will be no opening of new areas for large-scale agricultural plantations¹²⁷ or new settlements; there should also be a reduction in forest conversion to permanent non-forest use to enable the forestry departments in Peninsular Malaysia to make every effort to manage their forests sustainably;¹²⁸ there should also develop definition of forest that would serve as a guidelines to the forest conservator.¹²⁹ To realize this hope, the authorities must redouble their efforts, especially the forest authorities and their stakeholders.

Thus, based on the above alarming discussion, it is significant to study and analyse Peninsular Malaysia law and policy as well as forest conservation practices of the SFD in Peninsular Malaysia. The differences in forest conservation practices between states in Peninsular Malaysia are studied in order to see whether forests in Peninsular Malaysia could be sustained by the present legislation and approach of the SFDs. In addition, present legal issues on conservation of forests in Peninsular Malaysia are also addressed by highlighting several Environmental Principles. At the same time, the study will examine relevant legislation and approaches that have been passed in international law relating to forest conservation in order to find out whether forest conservator has taken into account such approaches in their forest management practices.

¹²⁶ Thang, Hooi Chiew, "Towards Achieving Sustainable Forest Management In Peninsular Malaysia", (2002) 65 No.4 *The Malaysian Forester*, 210-226.

¹²⁷ *Ibid.*

¹²⁸ *Ibid.* See para 1.1.2.2 (g).

¹²⁹ See para 1.1.1.

Thus, having established a basic knowledge of forests in Peninsular Malaysia and highlighting relevant issues of forest conservation in this chapter¹³⁰, it is now important to discuss the significance of the survival of forests that is to highlight numerous benefits it serves, its growth and development and also its threats in the next chapter. This topic is vital because the importance of forest survival is closely related to the focal point of the thesis, forest conservation issue in Peninsular Malaysia, which will be addressed in the following chapters.

¹³⁰ See para 1.1.

CHAPTER TWO: THE SIGNIFICANCE OF FOREST IN PENINSULAR MALAYSIA

2.1 Introduction and Significance of Forest in Peninsular Malaysia

From the discussion in the previous chapter, forest in Peninsular Malaysia is indeed unique in its characteristics and variety. However, this uniqueness is gradually decreasing as recent forest scenarios show that it is in serious danger of depletion and degradation. The forest has a complex and unique system which is in balance with the persistence of the natural ecosystem. This unique system of the forest can be understood by dividing it into a series of mutually related levels; ¹

- i) genetic composition²
- ii) species mixtures³
- iii) stand composition⁴
- iv) landscape relationship⁵

All the above levels are dynamic; therefore, it is important to note that all these levels will be in a state of change within a certain period of time. It is further submitted that these four identified levels are contributing with one another to delineate a natural, systematic forest ecosystem to give a whole idea of a complex system. However, this is habitually not entirely understood as these levels are regulated by a series of complex laws and relationships. Hence, if this fact is disregarded, the ecosystem will be disturbed and the system will become unsustainable.⁶

¹ L. Krugman, S, "International Decade on Biological Diversity", *Proceedings of an International Workshop on Biodiversity at Taipei*, Dec. 8-14 1992. Eds. Hsu Ho, Chung, et al., (Taiwan: Taiwan Forestry Research Institute, 1992), 1-6.

² *Ibid.* It refers to the composition and the quantity of genes, its connection with the available genes. The role of this level is to ensure the living systems are able to respond and adapt to the environment changes and disturbances.

³ *Ibid.* Variety of species is found in an ecosystem and they are interrelated and benefit from the continuation of the total system as a whole.

⁴ *Ibid.* Forest consists of a range of ecosystems, and the ecosystems are cohesive and rely on each other's levels for sustainability.

⁵ *Ibid.* It refers to the multiplicity of ecosystems across a large vicinity

⁶ *Ibid.*

In addition, forest has been manipulated since the early days to fulfill living needs. A large amount of timber, herbs, medicinal plants and other forest products have been extracted from the forest for the purpose of trade and business with the assumption that the forest's resources will continue to be renewed. Indeed, it is true that the forest is a naturally renewable resource; nevertheless, if it is being extracted inconsiderately, then there will be nothing left for the future. Therefore, it is vital that forest conservators remain relentless in their efforts and ideas to ensure the forest's survival and to preserve the range of benefits that can be derived from it.

Although the forested area is decreasing, current gradual changes in perspective and approach to the forest can be seen, specifically in development or agricultural projects. Projects must first be assessed to determine whether or not they will affect the forest environment. This assessment procedure has been clearly underlined under the Environmental Impact Assessment (EIA). Besides the EIA, forest in Peninsular Malaysia has also been categorised into Environmentally Sensitive Areas (ESA) with rankings from one to three.⁷ This is provided under the National Physical Plan. As a consequence of this plan, no development project will be allowed within the forest area. This situation describes the importance of sustaining and conserving the forest. Thus it seems that the perspective on forest as being merely for profits has been gradually changed. Hence, the extent to which the perspective has been changed is important.

Forest serves many purposes. As a watershed area, it also functions to protect soil against erosion; it is a perfect ecosystem for flora and fauna and at the same time offers great value in providing fresh air while also performing a carbon sinker duty (storing of

⁷ Peninsular Malaysia, Dept. of Town and Country Planning, *The National Agricultural Policy (NAP3)*, 2007, 21 Aug. 2007 <<http://www.npptownplan.gov.my/index.php?module=contentExpress&func=display&ceid=59>>.

carbon).⁸ It is crystal clear that the forest has been perfectly designed with a unique function, and a large number of organisms and microorganisms are depending on it. Hence, with this distinctive creation, Malaysia's forest is recognised as 'one of the 12 mega diversity countries of the world'.⁹

The Royal Belum State Park in Perak is among the reasons for this remarkable global recognition. Hence, Peninsular Malaysia is now responsible for part of the world's heritage which needs to be conserved and preserved. Established in 2001, the Belum Forest in Perak extending over 117,500 ha was declared the Royal Belum State Park by *Duli Yang Maha Mulia* (DYMM) Sultan Azlan Shah, Sultan of Perak on 31 July 2003.¹⁰ This has made Peninsular Malaysia the undeniable custodian of an ancient treasure with many unique species of flora and fauna. Thus, the dedicated protection of laws and regulations is vital. To ensure successful management of the State Park, the Royal Belum forest has been placed under the protection of the Perak State Parks Corporation. The State Park was then officially gazetted under the Perak State Park Corporation Enactment 2001 by the Perak State Government on 17 April 2007.¹¹

Another remarkable spot is the Sungai Pulai Forest Reserve in Johor, the oldest¹² and first gazetted mangrove forest in 1906, and also the second largest mangrove forest in Peninsular Malaysia with an area of 18,740 ha. On 31st January 2003, the forest reserve was listed as a Ramsar site with an area of 9,126 ha, whilst Tanjung Piai and Pulau

⁸ IUCN, UNEP, WWF, *Caring for the Earth: A Strategy for Sustainable Living*, (Switzerland: IUCN UNEP WWF, 1991), 122. The ability of forests to store carbon is different; see Maura-Costa, P., *The Climate Convention and Evolution of the Market for Forest-Based Carbon Offsets*, 3 July 2012 <<http://www.fao.org/docrep/003/y1237e08.htm#TopOfPage>>.

⁹ Sahabat Alam Malaysia, *Malaysian Environment in Crisis*, (Penang: Sahabat Alam Malaysia, 2002), 28.

¹⁰ Sukswan, S., *Royal Belum State Park-Royal Forest*, WWF-Malaysia, 11 Nov. 2009 <http://www.wwf.org.my/about_wwf/what_we_do/forests_main/forest_protect/protect_projects/project_royal_belum>.

¹¹ *Ibid.*

¹² Tye, Timothy, *Asia Explorers-The Authoritative Guide For Experiencing Asia*, Matang Mangrove Forest Reserve, 2009, 18 Nov. 2009 <http://www.asiaexplorers.com/malaysia/matang_mangrove_forest_reserve.htm>.

Kukup were recognised by the UNEP as the southernmost tip of mainland Asia.¹³ This recognition goes hand in hand with the responsibility to preserve and conserve the mangrove forest. In Perak, the Matang Mangrove Forest Reserve, gazetted as a forest reserve in 1906, has also been recognised as among the best managed mangrove ecosystems in the world.¹⁴ Hence these distinctive areas of nature have distinguished Peninsular Malaysia from other parts of the world.

Peninsular Malaysia has been blessed by the natural regeneration of its forest.¹⁵ Normally, forested land areas are soon covered with foliage and trees after they have been logged. However, the quality of the soil and biodiversity is debatable when a new generation of forests starts to grow and develop.

Thus, based on the above-mentioned forest scenario, this introductory chapter will elaborate on the significance of forest biodiversity in Peninsular Malaysia. The following section discusses different aspects of forest in Peninsular Malaysia, for instance the importance of forest to the environment, the multiple functions of forest, its development, its management and the threat to its survival. This discussion is vital for an understanding of the significance of the forest's subsistence in Peninsular Malaysia as the percentage of forested area and its value is decreasing due to the clearing of forest for various purposes such as development, agricultural activities etc.

¹³ Arif Nizam Abdullah, "Tapak Ramsar Habitat Flora, Fauna", *Utusan Online*, 17 Aug. 2009, 25 Aug. 2009 <http://www.utusan.com.my/utusan/info.asp?y=2009&dt=0817&pub=utusan_malaysia&sec=Laporan_Khas&pg=1k_01.htm&arc=hive>

¹⁴ Malaysia, Ministry of Tourism, *Virtualmalaysia.com-The Official e-Tourism for the Ministry of Tourism Malaysia*, Matang Mangrove Forest Reserve, 2009, 11 Nov. 2009, <<http://www.virtualmalaysia.com/destination/matangpercent20mangrovepercent20forestpercent20reserve.html>>.

¹⁵ Malaysia, Ministry of Primary Industries, *Forestry in Malaysia*, (Kuala Lumpur: Ministry of Primary Industries, 1988), 3.

2.1.1 Forest of Peninsular Malaysia on the World Map.

Peninsular Malaysia's tropical forest stands among 30% of the world's forests that is under 40 million square kilometres.¹⁶ This can be seen from the world map of forest in Appendix III,¹⁷ which clearly shows that tropical forest (green coverage) covers less than a third of the world's land area.

Peninsular Malaysia's tropical forest plays a significant role in establishing a constant world climate and temperature even though it accounts for only 0.15% of the world's forest.¹⁸ Malaysia constantly conveys the importance of conserving its forests. This was demonstrated by the former Malaysian Prime Minister, Tun Mahathir Mohamed, when he expressed that Malaysia has made considerable efforts towards forest conservation and stressed that Malaysia would retain at least 50% of its forest cover.¹⁹ This great effort was reiterated by the Prime Minister in 1998 in his opening address to the International Timber Conference. He opined that the efforts to conserve forest must also be upheld by the developed countries and responsibility should not be borne just by the developing countries. This would ensure that the countries which depend on forests for their economic wellbeing receive maximum returns from the produce of their forests in order to avoid unsustainable harvesting of forests.²⁰ It is believed that the promise to maintain the 50% of forest cover is not easy to keep as it can be clearly seen that, within the last 10 years, the percentage of forested area has significantly decreased even though the government vowed to increase the amount of forested area in the year 2000.

¹⁶ GreenFacts 2001-2012, Scientific Facts on Forests, 29.8.2012 See <<http://www.greenfacts.org/en/forests/forests-greenfacts.pdf>>.

¹⁷ Map of UNEP-WCMC, 2000, 12 Jan. 2009 <<http://www.unep-wcmc.org>>.

¹⁸ Mark McGinley, *World Resources Institute*, Malaysia - Forests, Grasslands, and Drylands Factsheet (WRI), In: *Encyclopedia of Earth*. Eds. Cutler J. Cleveland, 14 Oct. 2009, 28 Nov. 2009 <[http://www.eoearth.org/article/Malaysia_-_Forests,_Grasslands,_and_Drylands_Factsheet_\(WRI\)](http://www.eoearth.org/article/Malaysia_-_Forests,_Grasslands,_and_Drylands_Factsheet_(WRI))>

¹⁹ Mahathir Mohamad, "Opening Address", *Second Ministerial Conference of Developing Countries on Environment and Development*, Crown Princess Hotel, Kuala Lumpur, 27 Apr. 1992. See also Sahabat Alam Malaysia, *Malaysian Environment in Crisis*, (Penang: Sahabat Alam Malaysia, 2006), 35.

²⁰ Mahathir Mohamad, "Opening Address" *International Timber Conference/Malaysian Timber Board and Malaysian Timber Council*, Nikko Hotel, Kuala Lumpur, 3 Mar. 1998.

Unfortunately, it appears that (Table 2.1), nine years later, the efforts seemed to have been ineffective as the amount of forested area decreased.

Table 2.1: Forested Area in Malaysia

Year	Total Land Area (million ha)	Forested Area (million ha)	%
1997*	33	19.4	58.7
2000*	33	20.2	61.2
2005**	33	19.42	58.8
2009***	32.98	18.25	55.3

Source:* Ministry of Plantation Industries and Commodities, Malaysia 2004²¹

** Malaysian Timber Council, June 2007²²

*** Malaysian Timber Council, 2009²³

Situated in the tropical zone, Peninsular Malaysia maintains 44% of its land area as tropical forest cover²⁴; 5.81 million ha are forested area out of a total land area of 13.18 million ha.²⁵ Peninsular Malaysia's percentage is very significant in many ways: firstly, it has a large amount of forested areas as compared to other countries' forest composition; and, secondly, the forests of Peninsular Malaysia provide carbon storage for the whole world. It has been established in one study that, although Malaysia provides carbon storage, it has to bear the consequences of the costs.²⁶ Thus, it is crucial for the government to maintain this ultimate percentage and to prevent it from being decreased due to the various demands for forested land conversion, as stated in the table below.

²¹ Malaysia, Ministry of Plantation Industries and Commodities, *Statistics on Commodities 2004*, 18th ed. (Putrajaya: Ministry of Plantation Industries and Commodities, 2004), 142.

²² Malaysian Timber Council, *Malaysia's Response to Forestry and Timber Related Questions*, (Kuala Lumpur: Malaysian Timber Council, 2007), 4.

²³ Malaysian Timber Council, *Malaysia: Forestry & Environment (Facts & Figures)*, 18 Dec. 2012 <www.mtc.com.my/info/images/stories/pdf/factsheets.pdf>.

²⁴ Official Website Forest Department Peninsular Malaysia, *Maklumat Perangkaan Hutan Bagi Tahun 2011*, 18 Dec. 2012 <<http://www.forestry.gov.my/index.php/ms/pusat-sumber/statistik.html>>.

²⁵ *Ibid.*

²⁶ Ismariah Ahmad, *Economics of Carbon Emission and Sequestration in the Malaysian Forest Sector*, (Thesis PhD, University of Washington, 2001), 133.

Table 2.2: Percentage of Forested Area in Peninsular Malaysia

Year	Total Land Area	Forested Area	%
1990*	13.17	6.3	47.8
2000**	13.16	5.97	45.4
2006**	13.18	5.9	44.84
2007***	13.16	5.84	44.4
2011****	13.18	5.81	44

Source:* Statistics on Commodities 2004²⁷

** Forestry Statistics Peninsular Malaysia 2006²⁸

*** Forestry Department Peninsular Malaysia, Annual Report 2007²⁹

**** Forestry Department Peninsular Malaysia, 2011³⁰

2.1.2 Factor of Forest in Safeguarding the Natural Ecosystem

Forest plays significant roles in mitigating the problems of climate change. Besides continuous efforts to maintain and preserve the forest, planting trees is very helpful in dealing with climate change issues as trees, by their nature, are capable of absorbing more than a ton of carbon dioxide (CO²).³¹ Trees with dark leaves are found in tropical and temperate forest and these dark leaves are known as the most effective carbon sinkers because of their capacity for absorbing heat when the carbon is soaked. This natural dynamic features works to balance the content of carbon and heat in the air.³²

The stabilisation of CO² in the air is vital as it controls the heat of the sunlight on the earth. A balance of CO² in the air actually helps the earth to warm at a stable level; however, when the limit of its composition is exceeded, more harm and damage will occur.³³ In the ice age era, the composition of the CO² in the air was only 180 p.p.m (parts per million), thus turning the earth into a state of frigidity.³⁴ After the ice age era ended, the composition of CO² increased to a constant level of 280 p.p.m. after which

²⁷ See note 21 at 139.

²⁸ See note 23 at 5.

²⁹ Forestry Department Peninsular Malaysia, *Annual Report 2007*, (Kuala Lumpur: Forest Department Peninsular Malaysia, 2007), 89.

³⁰ See note 24.

³¹ Knauer, K, ed., *Global Warming, The Causes, The Perils, The Solutions, The Actions: 51 Things You Can Do*, (New York: Time Books Time Inc., 2007), 133.

³² *Ibid.* See also Sahabat Alam Malaysia, *Malaysian Environment in Crisis*, (Penang: Sahabat Alam Malaysia, 2006), 63. "Primary rainforests represents a stable store of carbon, secondary forests take up carbon as they grow although the latter cannot fully replace the carbon lost in the former".

³³ *Id* at 16.

³⁴ *Ibid.*

the earth started to warm up. The level of CO² has drifted out of control since 18th and 19th centuries during the era of the industrial revolution. The level of CO² then increased to 381 p.p.m.³⁵ This has also been reported in a study on understanding the Malaysian forest ecology, which explained that the CO² concentration is always more than 400 p.p.m and increases to over 450 p.p.m. at night. It was further stated that, when it is 2-53m above the ground, between 0800 and 1200 hours the concentration decreases to 305-310 p.p.m but rises again to 400 p.p.m in the afternoon (1600 hours onwards).³⁶

Thus, we can now obviously feel and see the outcome when CO² really exceeds its limitation. It is essentially our role to ensure that a good level of CO² is being maintained in the air in order to prevent unexpected circumstances and dangers. At this point, at least trees can be regarded as a solution to this uncontrolled phenomenon with their capacity to act as carbon sinkers, as discussed before.

Nevertheless, it is not all about trees as carbon sinkers; forest biodiversity also helps to maintain and balance a high quality of soil and ecosystem which affects the forest's growth. Every single unit of flora and fauna is interacting and intertwining in order to establish the fine ecosystem on which they depend.³⁷

Being a perfect home to a diversity of flora and fauna, forests are also havens of medicinal and herbal resources.³⁸ Were they to vanish for the sake of development purposes, there would definitely be a great shortage of human necessities for generations.

³⁵ *Ibid.*

³⁶ E.Soepadmo and T.Kira, "Contribution of the IBP-PT Research Project to the Understanding of Malaysian Forest Ecology" *Proceedings of a New Era in Malaysian Forestry, 1977*. Eds. Cherla, B.Sastry, P.B.L. Srivastava and Abdul Manap Ahmad, (Ipoh: Universiti Pertanian Malaysia Press, 1977), 63-109. See also Henson, Ian E., "The Carbon Cost of Palm Oil Production in Malaysia", (2008) *84 (988) The Planter* 445-464.

³⁷ See note 8.

³⁸ Malaysia, Ministry of Primary Industries, *Malaysian Rain Forest: A Living Resources*, (Kuala Lumpur: The Malaysian Timber Industry Board), 4.

Malaysia has always benefited from the advantages of its tropical forest density. This has been proved by its constant climate and physical environment. Recently, however, despite Malaysia's stable climatic conditions, the world climate has been reported as more irregular than ever and this is believed to be caused by global warming.³⁹ Thus, Malaysia is also affected by this calamity, for instance the tragedy of the tsunami in 2004, which affected the northern part of Peninsular Malaysia, and the El Nino phenomenon which Malaysia has experienced repeatedly.⁴⁰ The series of landslide tragedies (debris flow hazard) in Peninsular Malaysia, i.e. at Pos Dipang and on the North-South Highway, are said to be natural phenomena caused by heavy rainfall in mountainous terrains;⁴¹ nevertheless, it is believed that the calamity is related to the loss of forest. Besides that, frequent occurrences of floods on the east coast of Peninsular Malaysia during the monsoon season have now also been experienced by the northern part and west coast of Peninsular Malaysia. It was also reported that an alarming rate of deforestation is among the reasons for this irregular phenomenon.⁴²

2.1.3 Multiple Uses of Forest

The pre-independence scenario had witnessed a vast amount of deforestation for the purpose of increasing the country's revenues. Most forest areas had been explored for timber, new town development, rubber estates and mining activities. Hence Malaysia

³⁹ See note 31 at 18. See also *Eartquake Intensity in Malaysia*, 25 July 2009 <http://www.met.gov.my/index.php?option=com_content&task=view&id=265&Itemid=367>

⁴⁰ Ai Chun, Yeng, "Temperatures May Go up by 3°C with El Nino Phenomenon", *The Star Online*, 10 June 2009, 25 Aug 2009 <<http://thestar.com.my/news/story.asp?file=/2009/6/10/nation/4084162&sec=nation>>. See also Giri, C. et al., "Mangrove Forest Distributions and Dynamics (1975-2005) of the Tsunami-Affected Region of Asia", Ed., Bowman, David, (2008) 35, *Journal of Biogeography* 519-528.

Abdul Rahman Mahmud. "Menghadapi Fenomena El Nino", *Utusan Online* 15 June 2009, 25 August 2009 <http://www.utusan.com.my/utusan/info.asp?y=2009&dt=0615&pub=utusan_malaysia&sec=Rencana&pg=re_05.htm&arc=hive>.

⁴¹ B.K., Tan and W.H. Ting, "Some Case Studies on Debris Flow in Peninsular Malaysia", *Proceedings of the 2nd International Conference on Geotechnical Engineering for Disaster Mitigation and Rehabilitation (GEDMAR08) at Nanjing, China, May 30-June 2, 2008*. Eds. Liu, Hanlog, An Deng and Jian Chu, (Beijing and Berlin: Science Press Beijing and Springer Berlin Heidelberg, 2008), 231-235.

⁴² Dalam negeri, "Kemusnahan Bakau Boleh Bawa Bencana", *Utusan Online*, 15 May 2008, 25 Aug. 2008 <http://www.utusan.com.my/utusan/info.asp?y=2008&dt=0515&pub=utusan_malaysia&sec=Dalam Negeri&pg=dn_09.htm&arc=hive>.

had lost quite a lot of its forest cover which was supposed to serve various functions benefiting humankind.

Forest is now being recognised as capable of carrying out multipurpose functions as compared to the past when it was seen only as a profitable instrument. The government introduced a new agenda for forestry when the amendment of the National Forestry Act 1984⁴³ (NFA) was passed. Under section 10 of the NFA, forests in Peninsular Malaysia have eleven functions listed from (a) to (k); among them are timber production under sustained yield, water catchment, education, research, federal purposes and others.⁴⁴ This kind of effort is seen to be succeeding in viewing forests from a new perspective. At the very least, forest is seen as the most valuable green heritage that could be inherited by generations.

The role of forest as water catchment area is considered vital in the sense that about 20 million of Peninsular Malaysia's residents are dependent on this natural resource, and it is significant to note that the fresh water from the watershed area (forests) has contributed 97% of all types of uses in Malaysia⁴⁵. To sustain these natural resources, it is crucial to preserve and maintain forests. As at December 2006, there were 6 water catchment areas in Peninsular Malaysia: Tasik Pedu, Empangan Muda and Sungai Empangan, Sungai Perak in Kedah, Empangan Air Itam, Pulau Pinang, Tasik Kenyir in Terengganu and Empangan Sultan Iskandar in Perak.⁴⁶ These areas have also been recognised as an Environmentally Sensitive Area (ESA) in order to prevent any development that might later affect the function of forest as a water catchment area.⁴⁷

⁴³ Laws of Malaysia the National Forestry Act 1984 (Act 313).

⁴⁴ *Ibid.*

⁴⁵ Malaysia, Ministry of Primary Industries, Ministry of Science, Technology and Environment, *Forever Green*, (Oxford University Press: Capital Communications, 1992), 8.

⁴⁶ *Jabatan Perhutanan Semenanjung Malaysia-Laman Web Rasmi JPSM*, Kawasan Tadahan Air, 2006, 12 Mar. 2006 <<http://www.forestry.gov.my/kawtadahanair.html>>.

⁴⁷ See note 7.

Recent water resource crises in Selangor and Malacca resulted from the decrease in the size of the forested area which has preserved this unique water catchment function for thousands of years.⁴⁸ This indicates that uncontrolled development had affected the forested area; hence the public needs to bear the responsibility for sharing the water supply.

Research and amenity purposes were also introduced and included as new forest functions in the amendment in 1992 of the NFA 1984. The government felt that this function is crucial to ensure public participation in forests. Involving the public with forests will indirectly educate them about the significance and functions of forests, consequently helping to preserve and maintain the forest environment. Forest education normally involves schoolchildren and both urban and forest communities, where activities such as school camping, briefings and exhibition will be conducted for the public's benefit. To date 125 recreational forests have been established in Peninsular Malaysia for the public to participate in learning about forests.⁴⁹ For the purpose of education and research, the Selangor State Government in 1966 gave Ayer Hitam Forest Reserve an area of 1,248 ha.⁵⁰

Besides the functions provided under section 10 of the NFA, there are also unique features that need to be highlighted. Forest provides clean air which derives from green plants and trees. These groups of trees provide a special service at no cost to clean the contaminated air. As mentioned earlier, forest's function as a carbon sinker indeed explains the ability of forest to perform as a mechanism for refreshing the air. Although

⁴⁸ Melati Mohd Ariff, *A Shared Responsibility to Rectify Water Supply Issues*, Bernama.com., 20 Jan. 2009, 23 Nov. 2009 <<http://www.bernama.com/bernama/v5/newsfeatures.php?id=384799>>.

⁴⁹ Forestry Department Peninsular Malaysia, *Forestry Statistics Peninsular Malaysia*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia, 2006), 156.

⁵⁰ Faculty of Forestry, University Putra Malaysia, *Ayer Hitam Forest Reserve*, 26 Nov. 2009 <http://www.forr.upm.edu.my/eng/index.php?option=com_content&view=article&id=150&Itemid=187>.

the depletion of forests is reported to reduce, it is nearly possible for the air to stay clean and fresh even though forest situation is in alarming rate.⁵¹ Nonetheless, relentless efforts must be made by the forest authorities and the public to ensure our air quality is at a healthy level.

Urbanisation has caused people to migrate from rural to urban areas. As a result, many hectares of forest area have been logged to make way for the developing residential areas. This can be clearly seen in the state of Penang, Selangor and Klang Valley. The Forestry Department has taken on the duty of planting green trees in response to public demand for trees to be planted in their area.⁵² This occurred as the brand new urban areas became the centre of attention; hence the numbers of residences and people started to rise whilst the temperature increased. It was only then that the residents began to realise that they needed trees to balance the rise in temperature. This scenario illustrates the importance of sustaining and properly managing the forests. Felling trees without limit will affect the quality of air and life.

2.1.4 Peninsular Malaysia's Economy and Forest

Agriculture, fishing and forestry altogether contributed RM40,017 billion or 3.7% p.a. to the Malaysian Gross Domestic Product (GDP) in 2008.⁵³ Being a larger contributor than agriculture and fishing, the forestry sector alone contributed 3.2% (RM22.7 billion) of Malaysia's GDP in 2007.⁵⁴ Exports of timber and timber-based products from Peninsular Malaysia increased from RM11.40 billion in 2006 to RM11.66 billion in

⁵¹ Food and Agriculture Organization, *Global Forest Resources Assessment 2010*, (Rome: Food and Agriculture Organization of the United Nations, 2010), xiii.

⁵² Interview with the Director of the SFD of Penang on 17 Apr. 2009 and the Director of the SFD of Selangor on 6 Feb. 2009.

⁵³ Malaysia, Economic Planning Unit, Prime Minister's Department, *the Malaysian Economy in Figures 2008*, (Kuala Lumpur: Percetakan Nasional Malaysia Berhad, 2008), 1.

⁵⁴ See note 29 at 47.

2007, which is an increase of 2.3%.⁵⁵ This illustrates the government's appreciation of this natural resource in sustaining the development agenda.

Malaysia has exported RM 3,629,408 of its timber products in 2006 to major destinations around the world, i.e. Africa, South East Asian Countries, the European Union, East Asia, Europe (others), North America, Oceania, and West Asia.⁵⁶ Hence, the situation contributed to employment opportunities for 35,225 workers (Bumiputra and Non-Bumiputra) in 2006 which helped to stoke the Malaysian economy.⁵⁷

Malaysia is also blessed with its unique flora and fauna; hence, to boost the economic returns, ecotourism⁵⁸ has been introduced and promoted by the Ministry of Tourism, Malaysia. These kinds of efforts in promoting Malaysia to the world have involved acres of forested land. The National Parks and State Parks are the main tourist destinations in Peninsular Malaysia; at 31 December, 2007, there were 709,896 ha of land reserved for wildlife and several National/State Parks have been established.⁵⁹

One of the forest's functions is to stabilise climatic conditions; for oil palm plantations, a stable climate is vital for consistent growth. The palm tree needs a consistent amount of rainfall of 60 inches or 1520 mm a year. Hence, the survival of forest is really facilitating the emergence of the palm trees.⁶⁰ According to the Malaysian Palm Oil Board's (MPOB) statistics on commodities 2004, it was estimated that about 2,230,210 ha of palm trees were planted in Peninsular Malaysia, which accounts for about 58% of

⁵⁵ *Ibid.*

⁵⁶ See note 49 at 80.

⁵⁷ *Id* at 135.

⁵⁸ Appanah, S., "Trends and Issues in Tropical Forest Management: Setting the Agenda for Malaysia", *Conference on Forestry and Forest Products Research (CFFPR) 1999 Series: Tropical Forest Harvesting: New Technologies Examined*, (Kuala Terengganu, 22-24 Nov. 1999), 2-3.

⁵⁹ See note 29 at 89.

⁶⁰ See note 45.

oil palm plantations in Malaysia.⁶¹ Hence it is vital to consider the survival of the forest in order to guarantee positive outcomes for the plantations.

All the same it is important to note that forest is the only resource capable of producing fuel wood, timber and other valuable forest products such as rattan, bamboo and medicinal plants. It is difficult to find other resources that can contribute as much as the forest. Therefore, it is clear that forest really has great resources and is not merely a collection of areas that need to be cleared purposely for profit.

2.2 Status of Forest in Peninsular Malaysia

Since the early 1960s, Malaysia has experienced rapid conversion of forested land to agricultural activities. The years spanning the 1960s to the 1980s had witnessed the loss of 1.5 million ha of lowland forests converted to rubber and oil palm plantation.⁶² In 1989, Malaysia was among the world's major exporters of forest products, amounting to US\$3.0 billion.⁶³ The alarming rate of forest depletion was all about developing the nation in the first place as well as generating the country's income for economic sustainability. To date, Peninsular Malaysia has been able to maintain only 44% of its forest cover.⁶⁴

In the middle of the late nineteenth century, almost 95% of the land area in Peninsular Malaysia was still covered with forest.⁶⁵ The unique characteristics of flora found in the

⁶¹ See note 21 at 31.

⁶² Abdul Rahim Nik, "Water Yield Changes after Forest Conversion to Agricultural Land use in Peninsular Malaysia", (1988) 1(1) *Journal of Tropical Forest Science* 67-84.

⁶³ Ministry of Primary Industries, Malaysia, "World's Major Exporters of Forest Products-1989", *Fact Sheets-Forestry and Environment*, (Kuala Lumpur: Ministry of Primary Industries, Malaysia, 1992), 15.

⁶⁴ See note 24.

⁶⁵ Brookfield, Harold, Lesley Potter and Yvonne Byron, *In Place of the Forest: Environmental and Socio-Economic Transformation in Borneo and the Eastern Malay Peninsula*, (Tokyo: United Nations University Press, 1995), 23.

forest have been described and illustrated by many writers, and there are an estimated 25,000 species of distinctive flora.⁶⁶

The perspective that regarded forest as existing only for the state's revenues has been changed as, presently, the forest is intended to provide a variety of resources such as medicinal plants, herbs and biotechnology; it is also a place of interest and recreation. The function of the forest is to keep growing; hence, it is crucial for the Forestry Department to ensure that the forest continues to be sustainably managed. Thus, the status of forest in Peninsular Malaysia can be seen through the evolution of time. In order to appraise forest development in Peninsular Malaysia, the period beginning just before 1900 until after 1900 is considered appropriate to address the matter.

2.2.1 Pre-1900

2.2.1.1 Production Forest

A great range of forest products and mangrove had been collected mainly for the purpose of trade as these forest products were highly demanded by outsiders.⁶⁷ In this particular century, the British had brought in rubber to be cultivated in the Malay Peninsula and thus required forest areas to be cleared. This situation of unmanaged forest led to massive depletion of forest as a consequence. In 1896, the Australian Torrens System was introduced in the Federated Malay States and was later expanded to other states in the Peninsula. The system was adopted to govern land development. The production of gambier, cassava, pepper, sugar and coffee by foreign companies subsequently extended the excision of forest in the Peninsular.⁶⁸

⁶⁶ *Id* at 16.

⁶⁷ See note 65 at 24.

⁶⁸ *Id* at 34.

2.2.2 Post- 1900 and Current Forest Status

2.2.2.1 Production and Protection Forest

The beginning of the 19th century had witnessed the progressive stage of the Malay Peninsula in developing the nation state. The rubber plantations (*Hevea brasiliensis*) had been introduced by the British largely in response to the world demand for rubber, causing the expansion of rubber estates, but suddenly the rubber prices fell on the world markets in the 1960s.⁶⁹ This situation led to another episode of forest clearance for the purpose of oil plantations amounting to 1.64 million ha of lowland forest.⁷⁰ Large new areas were opened under the government land development schemes, i.e. FELDA, FELCRA, etc., to fulfil the market demand.

The discovery of tin in the western part of the Malay Peninsula caused the excision of large amounts of lowland forest in the middle of nineteenth century.⁷¹ Forest areas were also cleared to develop mines for gold and iron.⁷² The building of dams was also said to eliminate habitats of flora and fauna.⁷³ To date, 16 dams have been built for the purposes of water supply, irrigation, silt retention and hydropower. The establishment of the dams has involved a total of 177,160 ha of the water catchment areas (protected forest areas).⁷⁴

The effort to gazette forest reserves began during the British Colonial era in the Malay Peninsula in 1906 with the gazetting of Serting Forest in Negeri Sembilan as a

⁶⁹ Manokaran, N., "Status of Biodiversity Research in Malaysia", *Proceedings of an International Workshop on Biodiversity at Taipei*, Dec 8-14 1992. Eds. Chung, Hsu Ho, et al., (Taiwan: Taiwan Forestry Research Institute, 1992), 21-37.

⁷⁰ *Ibid.*

⁷¹ See note 69.

⁷² See note 65 at 30.

⁷³ See note 69.

⁷⁴ Malaysia, Dept. of Drainage and Irrigation, *Dam Location*, 14 July 2009, 4 Dec. 2009 <http://www.water.gov.my/index.php?option=com_wrapper&Itemid=835>.

Permanent Reserve Forest with an area of 8,936 ha.⁷⁵ This indicates that the recognition that the forest must be preserved has existed for decades. These responsibilities then passed to the Malaya conservator of forests after the British colonial period ended. From the period 1906-2006 a total of 4,738,035 ha of forest have been gazetted for the purpose of protection.⁷⁶

2.2.2.2 Production, Protection, Amenity, Research and Education Forest

Aware of the world's consciousness about the significance of forest, in 1992 the government, through the National Forestry Council, revised the National Forestry Policy 1978 (NFP). Additional roles pertaining to forest have been inserted in the NFP, such as amenity, research and education, to meet the present circumstances.

The table 2.3 below illustrates the outcome of the revised NFP. It can be seen that forest now has multiple uses. Hence, there will be an overlapping of forest uses or functions within the Permanent Reserve Forest (PRF) as they serve the same purposes at one time.

Table 2.3: Multiple uses of forest in Peninsular Malaysia 2008

Permanent Reserve Forest (PRF) (4.80 ha)		
Protection Forest (2.00 mil ha)		Production Forest (2.80 mil ha)
Totally protected forest	Partially protected forest	
i.e.	i.e.	
<ul style="list-style-type: none"> • Forest sanctuary for wildlife – 90,985 ha • Recreational Area – 66,609 ha* • Virgin jungle reserve • Soil protection • Education • Research 	<ul style="list-style-type: none"> • Water catchment area – 177,160 ha** • Soil reclamation • Flood control • Federal Purposes 	

Source: FAO Corporate Document Repository⁷⁷

⁷⁵ Forestry Department of Negeri Sembilan, "Table 3: List of Permanent Reserve Forest Area in Negeri Sembilan in 2005", Negeri Sembilan, Forestry Department, *Annual Report 2005*, (Negeri Sembilan: Forestry Department of Negeri Sembilan, 2005), 21.

⁷⁶ See note 49 at 15.

⁷⁷ Food and Agriculture Organization of the United Nations (FAO), "Trade and marketing of forest product", *Journal of Unasylva*, 183 1995 v7850/E, 1995, 4 Dec. 2009 <<http://www.fao.org/docrep/v7850e/v7850e11a.htm>>.

* Forestry Department Peninsular Malaysia (2006).⁷⁸

**Dept. of Drainage and Irrigation Malaysia (2009).⁷⁹

Forest is now seen to carry out multiple functions; thus, although it produces wood for export, forest also provides specific locations for recreation and research purposes. In this case, diligent implementation of sustainable forest management is vital to ensure the survival of forest in Peninsular Malaysia for many more years.

2.3 Forest Conservation in Peninsular Malaysia

The Forestry Department of Peninsular Malaysia has been practising sustainable forest management (SFM) since it was introduced in 1992 in the revised version of the National Forestry Policy 1978 (the NFP).⁸⁰ It has been the hope of the Minister in charge that all related parties to forests in Peninsular Malaysia will observe the principle of SFM in line with the aim and state development strategy.⁸¹ As underlined in the *Manual Perhutanan Jilid III*, the SFM concept is not new to the forestry field because the concept has been practised since those times although the emphasis was on a sustained yield.⁸² A sustained yield means that wood consumption is equal to the rate of forest growth. After a shift in demand for forests to serve multiple functions, the Sustainable Forest Management (SFM) concept was introduced to replace the sustained yield concept.⁸³ The Malaysian Criteria and Indicators 2002, introduced by the International Tropical Timber Organisation, have been used to evaluate the implementation of SFM.⁸⁴ It is fortunate that a substantial volume of forest still exists in Peninsular Malaysia through the practising of the SFM; however, from the preceding

⁷⁸ See note 49 at 156-160.

⁷⁹ See note 74.

⁸⁰ The National Forestry Policy 1978 (Revised 1992) approved by the National Land Council on the 19th November 1992, Forestry Department of Peninsular Malaysia.

⁸¹ *Id* at ii-iii.

⁸² Jabatan Perhutanan Semenanjung Malaysia, *Manual Perhutanan 2005 Jilid III*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia, 2005) , 989. This forestry manual comprises three volumes. The first volume provides more on the administration and development of the forestry department of Peninsular Malaysia and also contains the law and policy on forest conservation. The second volume sets out the operational function of the department i.e. the preparation of operational boundary, forest harvesting in the primary land forest, administration of forest revenue, wood-based industries and also the enforcement of law. The third volume consists of forest development which includes management and silviculture of primary forest, plantation forest, conservation of forest, recreational forest, urban forest and forest certification.

⁸³ *Ibid.*

⁸⁴ *Ibid.*

discussion, there has clearly been a decline in the quality of the forest environment and the quantity of forest coverage. The following brief discussion explains how forest in Peninsular Malaysia is being managed and conserved.

2.3.1 Managing Forest

2.3.1.1 Boundary Demarcation of the Work Area

The procedure and technique of boundary demarcation of the work area is clearly stated in the *Manual Perhutanan Jilid II* (Volume II of the Forestry Manual).⁸⁵ This procedure is regarded as an important activity in determining boundary position and area of a compartment or sub-compartment in the Permanent Reserve Forest before embarking on any forest operations or activities.⁸⁶ Accurate boundary demarcation is vital to avoid any disputes on overlapping of forest area, loss of government revenue, and legal complications; at the same time it facilitates monitoring and controlling of the forest area.⁸⁷

The demarcated work area is used for implementation of various activities such as the Pre-felling Forest Inventory (Pre-F), tree-labelling, forest harvesting, the Post-Felling Forest Inventory (Post-F) and the Silvicultural Treatment. The work area is based on a decision or approval for the annual coupe of forest harvesting.⁸⁸ The demarcation is usually based on geographical features, for example a branch of the river, a permanent bridge and benchmark or a trigonometry station.⁸⁹ If the work area boundary is also the external boundary of Permanent Reserve Forest that is adjacent to state land, mining land, alienated land or temporary occupation license land, the Permanent Reserve Forest

⁸⁵ Jabatan Perhutanan Semenanjung Malaysia, *Manual Perhutanan 2003 Jilid II*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia, 2003), 575.

⁸⁶ *Ibid.* The boundary demarcation of the work area includes activities for the purpose of managing, harvesting and forest development. This procedure is the first activity executed in forest area before other activities.

⁸⁷ *Ibid.* Annual coupe of forest harvesting is the annual approved allocation of timber felling in Permanent Forest Estate for every state in Peninsular Malaysia to observe.

⁸⁸ *Ibid.*

⁸⁹ *Id* at 578.

Plates should be installed along the boundary at a distance of not more than 800 m from each other and at the entrance across the external boundary.⁹⁰

The activities in forest areas are based on the sustainable management of forest which has been practised by all forestry departments in Peninsular Malaysia. By implementing such a scheduled activity, forest resources, especially timber, can be sustained, particularly for wood-based industries. Besides sustaining the forest for the purpose of government revenue, the silvicultural treatment activity which is being conducted in the forest guarantees the condition of forest biodiversity and prevents it from being damaged either by nature or by human activity.

2.3.1.2 Selective Management System

This particular system replaces the previous Malayan Uniform System (MUS) which was found to be ineffective in mountainous forest and unprofitable as a harvesting system (*monocyclic*). A larger forested area was also required in the previous MUS to ensure the production of sustainable wood.⁹¹

The awareness of tropical forest management shows the shifting of perceptions on forest biodiversity and wood species, moving from activities that had a negative effect on forest to the realisation that forest biodiversity offers the best protection for soil and water resources and also allows the use of various wood species by wood-based industries.⁹² Hence, in 1978 the Selective Management System (SMS) was introduced with a flexible cutting regime which is consistent with preservation of the environment

⁹⁰ *Id* at 583.

⁹¹ Jabatan Perhutanan Semenanjung Malaysia, *Manual Perhutanan Jilid III*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia, 2005), 987-988.

⁹² *Ibid.*

and timber market demand.⁹³ This current forest management system requires a selective felling management regime which is based on Pre-F to ensure economical harvesting with sufficient trees remaining for the next felling and, at the same time, to sustain an ecological balance and environmental quality. The felling rotation under the SMS has a cycle of 30 years.⁹⁴

The most significant contribution of this system is that it encourages trees preservation by avoiding poisoning relic trees, which indirectly preserves trees' genetic resources existing in the forested area.⁹⁵ Above all, the SMS is regarded as a conservative form of forest management which is able to provide numerous benefits including the following: conservation of forest resources; sustainable production of basic resources; ensuring the stability of the environmental quality; reducing damage to small trees; reducing waste during felling; and encouraging optimum use of forest resources.⁹⁶

The SMS practices basically involve the implementation of certain activities before forest harvesting, *inter alia* Pre-F, Determination of Felling Limitation and Tree Tagging. The Pre-F is significant in that it can identify and update the forest data and condition so that the felling limitation can be optimized; for instance, in order to gain a true picture of the forest, collecting accurate data on stock, and distribution of big trees, *kayu jaras* and seedlings are essential. At the same time it ensures proper planning and management so that maximum benefit can be obtained in a sustainable manner.⁹⁷ The

⁹³ *Ibid.*

⁹⁴ *Id* at 1022.

⁹⁵ *Ibid.* See also 1021-1022; besides that SMS is also important *inter alia* in preserving the interest of dipterocarp species especially *Meranti* species, the need to provide felling of a short rotation because of productive forest area was reduced, forest area with slope more than 30 percent is not suitable for development of forest plantation and that respective areas should be managed for sustainable timber yield, the high cost of development of forest plantation, the market for small diameter hardwood species is limited, the system is the cheapest method and the accurate ways of restocking dipterocarp tropical forest naturally as the annual seeds production is uncertain, dipterocarp forest with its stand structure, breeding, growth habit and its response to light after being logged is suitable to be managed under the selective felling, small trees and pole-timber (*jaras*) (30cm-45cm bdh) grow fast into harvesting size (in 30 years' time) if compared to seedlings which require twice the period, sufficient number of young trees from various classes of sizes can be saved under the directional felling and the system also can be suited to various silvicultural levels through the use of felling limit for dipterocarp and non-dipterocarp species.

⁹⁶ *Ibid.*

⁹⁷ *Id* at 1043.

forest inventory is implemented two years before harvesting. The forest harvesting is conducted in the specified working area after the boundary tagging is completed.⁹⁸

The Felling Limitation should be determined before a certain forested area is harvested. This is to ensure economical forest harvesting and that sufficient remaining forest is available for the next felling rotation. This activity is subjected to Pre-F data analysis which can be processed either manually or by computer.⁹⁹ The minimum felling limitation for dipterocarp species is 65cm dbh whereas for non-dipterocarp species it is 55cm dbh.¹⁰⁰

Tree tagging is usually conducted within one year prior to a forest area being cleared for harvesting, that is, after the felling limitation is determined. Basically, tagging involves tagging the felling trees, mother trees, protected trees, road trees, *matau* trees (timber yard), *tapak kongsi* trees and boundary of buffer zone for water movement. The objective of the tagging is more concerned with managing wood production, for instance in dealing with licensing matters and also in preparing closing reports for forest harvesting. Apart from this, it minimises environmental destruction through felling direction determination, tagging of protected trees and tagging of buffer zones for water movement.¹⁰¹

2.3.1.3 Annual Coupe for Timber Felling

The Annual Coupe for Timber Felling in Peninsular Malaysia has four main purposes: to ensure a well-organized forest management plan; to balance harvesting rates with productive forest areas in the current Permanent Reserve Forest; to be consistent with

⁹⁸ *Ibid.*

⁹⁹ See note 91 at 1068.

¹⁰⁰ *Id* at 1073.

¹⁰¹ *Id* at 1090.

the sustainable forest management concept; and to optimize forest harvesting.¹⁰² The annual coupe is determined by the National Forestry Council every five years through the Malaysia Plan. Hence, every SFD in Peninsular Malaysia has to prepare paperwork for proposal of their annual coupe. The annual coupe for timber felling in Peninsular Malaysia according to the Malaysia Plan is shown in Table 2.4 below.

Table 2.4: Annual Coupe for Timber Felling
In Peninsular Malaysia as in Malaysia Plan

Malaysia Plan	Annual Coupe (ha)
4 th (1981-1985)	74,869
5 th (1986-1990)	71,200
6 th (1991-1995)	52,250
7 th (1996-2000)	46,046
8 th (2001-2005)	42,870

Source: *Manual Perhutanan Jilid III*¹⁰³

From the above table, it can be seen that the annual coupe has decreased every five years by as much as 4.9% in the Fifth Malaysia Plan, 27% in the Sixth Malaysia Plan, 12% in the Seventh Malaysia Plan and 7% in the Eighth Malaysia Plan. The government has actually reduced its annual coupe to 29%, which is a decrease of 21,999 ha after twenty-four years. However, this cannot be regarded as a significant reduction because the number of hectares and percentages involved is inconsiderable if compared to the annual change in forest cover in 2005, which was 140,200 ha.¹⁰⁴

Even though the reduction of annual coupe is not so significant it does, however, reflect the shift of approach from sustained yield to sustainable forest management. It can also be considered a positive development in the use of forest and thus shows that the government has put great effort into achieving sustainable management of forest in Peninsular Malaysia. The approach to sustained yield is more towards balancing wood

¹⁰² *Id* at 1030.

¹⁰³ See note 91.

¹⁰⁴ Butler, Rhett 1994-2011, *Mongabay.com Tropical Rainforests-Malaysia*, CIA-World Factbook Profile, FAO-Forestry Profile World Resource Institute, 4 Feb. 2006, 23 Nov. 2011 <<http://rainforests.mongabay.com/20malaysia.htm>>.

production with forest growth, while sustainable forest management is concerned with public demand for multiple use and services provided by forest. This current concept has been expanded to include other fields of forest such as the protective forest function and non-wood forest products.¹⁰⁵

2.3.2 Forest Classification (The National Forest Inventory)

Every ten years the Forestry Department of Peninsular Malaysia (the Department) undertakes a data collection project on forest resources. This project is known as the National Forest Inventory, the first of which was taken in 1970. Thus far, the Department has successfully carried out four series of National Forest Inventory.¹⁰⁶ Basically, this project is implemented for the purpose of assisting the Department and also the States Forestry Department in updating the latest forest information for the preparation of Forest Development Planning.¹⁰⁷

Among the conservation efforts in the National Forest Inventory is the classification of forested area by strata (level). Table 2.5 shows the information that has been gathered under the Fourth National Forest Inventory.

Table 2.5: Classification of Forested Area by Strata for the Fourth National Forest Inventory

No.	Strata	Strata Code	Area Width (ha)
1	Good Virgin Forest Land	11	236,292
2	Poor and Medium Virgin Forest Land	12	505,825
3	Logged-over Forest Land (1 to 10 years)	20	520,193
4	Logged-over Forest Land (11 to 20 years)	21	733,791
5	Logged-over Forest Land (21 to 30 years)	22	534,549

¹⁰⁵ See note 91 at 989.

¹⁰⁶ Jabatan Perhutanan Semenanjung Malaysia, *Laporan Inventori Hutan Nasional Ke Empat Semenanjung Malaysia*, (JPSM: Kuala Lumpur, 2007) 2. The First National Forest Inventory (1970-1972) was aided by United Nations Development Programme (UNDP). The Second National Forest Inventory (1981-1982) was fully handled by the Department. The Third National Forest Inventory (1991-1993) was supported by Food and Agricultural Organisation (FAO) and The Fourth National Forest Inventory (2002-2004) had cooperation by technical assistance through the project of Malaysian-German Sustainable Forest Management and Conservation).

¹⁰⁷ *Id* at 3.

No.	Strata	Strata Code	Area Width (ha)
6	Logged-over Forest Land (>30 years)	23	223,054
7	Peat Swamp Virgin Forest	31	84,510
8	Peat Swamp Logged-over Forest	32	123,114
9	State Forest Land	40	390,929
10	Peat Swamp Forest State Land	41	56,056
11	Protected Forest	50	2,321,701
	Total		5,730,014

Source: *Laporan Inventori Hutan Nasional Ke Empat Semenanjung Malaysia*¹⁰⁸

Thus, the classification as shown in the table above is very significant for forest planning at State level. These data must be seriously handled so that uniform forest planning and monitoring can be implemented. Otherwise, the forest would be harvested and cleared without proper supervision, thus contributing to forest degradation and the lack of accurate forest records.

2.3.3 High Conservation Forest Value for Malaysia

The High Conservation Forest Value (HCFV) is the approach introduced by the Forest Stewardship Council (FSC) (an international accreditation association handling issues of forest management). The FSC has developed this standard approach for the member states to follow. The HCFV has been defined in principle nine of FSC's 10 Principles.

Table 2.6: The Elements of the High Conservation Forest Value in Malaysia

HCV	Element
1	Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values, for example protected areas, threatened and endangered species, endemic species and critical temporal use.
2	Globally, regionally or nationally significant large landscape-level forests.
3	Forest areas that are in or contain rare, threatened or endangered ecosystems.
4	Forest areas that provide basic services of nature in critical situations, for example forests critical to water catchments, forests critical to erosion control, forests providing barriers to destructive fires.
5	Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).
6	Forest areas critical to local communities' traditional cultural identity.

Source: HCFV Toolkit for Malaysia¹⁰⁹

¹⁰⁸ See note 106.

2.4 Threats to Forests in Peninsular Malaysia

As has been discussed in an earlier section, Peninsular Malaysia is now undergoing important phases of development in order to become an established nation state. These progress phases of development are considered a common situation in any developing country; however, in order to achieve the agenda, there appears to be a need to surrender lots of its natural resources, i.e. forest. However, it is a fact that it is difficult to renew a complex natural resource such as forest within a short period of time as it needs at least 20-30 years to return to its original state.

The forest of Peninsular Malaysia is under threat and in danger as it was being sacrificed for the nation's development. It has been reported that a decline in forest volume in Peninsular Malaysia is mainly due to conversion of forest land to permanent non-forest use, for example the expansion of large-scale agricultural plantations such as oil palm plantations, government land schemes to help the landless, and also to meet the demands of the growing population¹¹⁰ such as building residential areas, business complexes etc. Despite the aforementioned factors of forest loss in Peninsular Malaysia, illegal logging was reported in a study to be no longer a serious problem¹¹¹; furthermore, in a study conducted by WWF Malaysia this illegal activity was found to be under control in Peninsular Malaysia.¹¹² This is due to arduous efforts by the authorities to combat illegal activities in the forest.¹¹³ Nonetheless, other than those activities specified above, the forest is being degraded and exploited either legally or illegally. Hence, it is vital to note that exploiting this natural resource without an appropriate regulatory system will disturb the natural renewable processes of the forest.

¹⁰⁹ WWF, *High Conservation Value Forest (HCVF): Toolkit for Malaysia: A national guide for identifying, managing and monitoring High Conservation Value Forests*, (WWF-Malaysia: Selangor, 2009), 2.

¹¹⁰ Thang, Hooi Chiew, *Malaysia Forestry Outlook Study*, (Bangkok: FAO, 2009), 44.

¹¹¹ *Id* at 49.

¹¹² Blakeney, J., "Overview of Forest Law Enforcement in East Malaysia", *Workshop on Illegal Logging in East Asia*, (Jakarta, 27-28 Aug. 2000) quoted by oi (2009). See also Jaspal Singh, "5 Held Over Illegal Clearing of Terla Forest Reserve", *New Straits Times* 8 Aug. 2007.

¹¹³ See note 110 at 49.

The issue of threats to forest was also discussed in a study by the Canadian forestry project which establishes two sources of internal and external man-made pressures (stress) that lead to forest disappearance. Internal pressures refer to the modification of the original state of the forest as a result of human activities, whereas external pressures denote the detrimental activities occurring outside the forest which in due course will affect and deteriorate the forest ecosystem. Examples of detrimental activities include airborne pollutants, acid rain, greenhouse gases and ozone depletion.¹¹⁴ This particular study also lists nine significant causes of deforestation in South East Asia and eight consequences of tropical deforestation.¹¹⁵ From the said study the researcher believes that Peninsular Malaysia's forest is also subject to the causes and consequences of deforestation in South East Asia which were underlined by the above-mentioned Canadian author.

The said author also highlights the causes of forest destruction in each developing ASEAN country. He further states that, among others, the practice of traditional and modern land-use patterns by most of the ASEAN countries, particularly Indonesia, Malaysia, Thailand and the Philippines, had forced the countries to deal with specific ecological, social and economic problems which led to the loss of their forest. The said author further commented on the loss of forest in Malaysia, concluding that it occurred

¹¹⁴ Papastergiou, Spiros, *An Informative Overview of the Most Common Forest Types, Forest Pressures and Progress Towards Sustainable Tropical Forest Management in South East Asia*, Canadian Project Forester, Study Paper 95/96, (Kuala Lumpur: ASEAN Institute of Forest Management, 1996), 20. See also Williams, Michael, "Forests" *The Earth As Transformed by Human Action Global and Regional Changes in the Biosphere over the Past 300 Years*, Ed. Turner II, B.L., (USA: Cambridge University Press, 1990), 179. An annual global carbon emission is mostly resulted from human activities; see Trumper, Kate et al., *The Natural Fix? The Role of Ecosystems in Climate Mitigation. A UNEP Rapid Response Assessment*, (Cambridge: UNEP, 2009),6.

¹¹⁵ *Id* at 21. Please read the nine significant causes of deforestation: 1) shifting cultivation 2) logging 3) development projects such as transmigration/resettlement/relocation 4) forest fires and drought 5) soil erosion and loss of nutrients 6) floods 7) conversion to agricultural land 8) conversion to large agricultural estates (oil palm, coconut and etc.) 9) urban settlement, roads, industries and other infrastructures. Please read the eight consequences of tropical deforestation: 1) loss of forest people, culture, way of life and knowledge 2) an increase in barren land 3) regional decreases in rainfall 4) global increases in temperature due to rise in atmospheric carbon 5) extinction of large numbers of plant and animal species 6) increased exposure and erosion of soil 7) an increasing downward cycle of rural poverty 8) change in vector habitat and increased risk to human health.

mainly because of Malaysia's booming economy, as a result of which most of the forested land was developed for commercial purposes.¹¹⁶

Therefore, in this particular section it is important to highlight the main factors of the threat to the forest caused by human actions which eventually alter the original condition of forest in Peninsular Malaysia, for instance, expansion of agricultural activities on a large scale, rapid mixed development projects, and forest-burning.

2.4.1 Expansion of Agricultural Activities

The expansion of agricultural activities in Peninsular Malaysia has been practised since the early days both before and after independence. Agricultural activities have been the core business of the states, and world demand, especially for rubber, resulted in the changes in the pattern of land use, especially forested land. In the late 19th and early 20th centuries, rubber plantations, which originated in the Amazon Valley, Brazil, were introduced to Malaysia, particularly in Pahang; the process began in 1877. Initially, European and Chinese private sector companies established several rubber estates in Pahang; the business has since expanded in all the other states throughout the Peninsula.¹¹⁷ Besides rubber plantations, other crops such as coconut were planted from 1915 onwards in the coastal area of Kuantan and Pekan, Pahang. By the end of the 1950s there were about 400 ha of coconut estates as, after World War II, coconut oil was in great demand before the introduction of palm oil.¹¹⁸ In 1917, the palm oil industry was commercialised after being brought from Africa to Malaysia in the 1850s

¹¹⁶ *Id* at 22.

¹¹⁷ Sulong Mohamad and Katiman Rostam, *Menempa Kemakmuran di Bumi Bertuah... Pembangunan Tanah di Malaysia*, (Kuala Lumpur: Federal Land Development Authority (FELDA), 2007), 23.

¹¹⁸ *Id* at 24.

as a decorative plant for the yard of the government complex. Nevertheless, the progress of oil palm plantations is much slower than that of rubber plantations.¹¹⁹

In order to satisfy the above-mentioned activities, thousands of acres of forested land have been explored and developed; hence, the status of forested land was permanently changed to an agricultural status. The Forest Reserve identified for selection as development sites needs to be excised first before the area can be cleared.¹²⁰ This is purposely being implemented to generate more income in order to establish strong economic conditions. From the Table 2.7, it can clearly be seen that, between the years of 1959 and 1976, a total of 812,684 acres of land have been developed and planted for the sole purpose of agricultural use.

Table 2.7: Acreages developed and planted (1959-1976)

Year	Acres				
	Rubber	Oil Palm	Sugarcane	Cocoa	Total
1959	4,091	-	-	-	4,091
1960	10,509	-	-	-	10,509
1961	14,471	926	-	-	15,397
1962	24,673	1,749	-	-	26,422
1963	17,343	6,839	-	-	24,182
1964	22,398	8,317	-	-	30,715
1965	8,475	9,578	-	-	18,053
1966	14,442	14,032	-	-	28,474
1967	9,144	18,235	-	-	27,379
1968	2,344	31,044	-	-	33,388
1969	1,928	36,321	-	-	38,249
1970	18,007	33,554	-	-	51,561
1971	19,319	28,410	-	-	47,729
1972	21,045	49,999	2,000	-	73,044
1973	31,134	68,569	2,921	-	102,624
1974	13,639	77,324	3,700	1,170	95,833
1975	26,850	63,765	1,250	1,280	93,145
1976	23,472	66,909	-	1,508	91,889
Total	283,284	515,571	9,871	3,958	812,684

¹¹⁹ *Ibid.*

¹²⁰ Tunku Shamsul Bahrin and Perera, P.D.A, *FELDA 21 Years of Land Development*, (Kuala Lumpur: P.Pelita, 1977), 29-30. See also Tan Cheng Li, "Sanctuaries Sacrificed", *The Star* 7 July 2009, 25 July 2009 <<http://thestar.com.my/gogreenlivegreen/story.asp?file=/2009/7/7/gogreenlivegreen/4248973&sec=gogreenlivegreen>>.

Source: Felda: 21 years of land development¹²¹

Between the years of 1971 and 1975, massive development of the agriculturally-based new settlement areas such as FELDA and FELCRA had tremendous effects on the forested area especially in the southern part of Peninsular Malaysia. After FELDA successfully developed forested land, FELCRA, which is also an agriculturally-based association, has pursued the development of forested land. FELCRA itself has developed 25,000 acres of forested area in which oil palm and rubber plantations have been the main production activities.

Table 2.8: Land development in Peninsular Malaysia under The Second Malaysia Plan (1971-1975)

Agency	Acres
FELDA	275,000
Private sector	113,000
Public-private joint venture	50,000
Youth schemes (FELCRA & State Govt.)	75,000
Public estates	50,000
Cooperative of Malaysia (MSA)	150,000
FELCRA	25,000
Total	738,000

Source: FELDA: 21 years of land development¹²²

In 2008, 853,313 ha of forest areas have been developed in Peninsular Malaysia. The details of FELDA land development are shown in the table below:

Table 2.9: Areas developed by FELDA as at 2008 and 2007

Areas developed	2008			2007		
	Hectares 853,313	% Plantation	% Area	Hectares 853,313	% Plantation	% Area
Agricultural area	811,140	100.0	95.1	811,140	100.0	95.1
Oil palm plantation	722,946	89.1	84.7	722,126	89.0	84.6
Rubber plantation	84,496	10.4	9.9	83,746	10.3	9.8
Sugar cane plantation	879	0.1	0.1	2,449	0.3	0.3
Timber trees, fruits orchards and research	2,819	0.4	0.4	2,819	0.4	0.4

¹²¹ *Id* at 50. See also Lian Pin Koh and David S. Wilcove, "Is Oilpalm Agriculture Really Destroying Tropical Biodiversity?", *Conservation Letters* 1, Ed. Bradshaw, Corey, (USA: Blackwell Publishing Inc., 2008).

¹²² *Id* at 48.

Areas developed	2008			2007		
	Hectares 853,313	% Plantation	% Area	Hectares 853,313	% Plantation	% Area
Settler's settlement	42,173		4.9	42,173		4.9

Source: FELDA, Annual Report 2008¹²³

Besides the federal government's project of planting crops, i.e. oil palms and rubber, agriculture projects such as vegetable plantations have been widely pursued, particularly in the hilly and mountainous areas such as the Cameron Highlands in Pahang and Lojing in Kelantan. About 10,500 ha of area in the Cameron Highlands¹²⁴ have been developed for this purpose, and a 200 ha piece of land in Lojing which is surrounded by the Sg. Brok Forest Reserve has received the approval of the state government of Kelantan to be developed as an agricultural hub.¹²⁵ It is expected that, in developing this vital hub of agriculture activities, those respective project proponents will observe and comply with related environmental rules and regulations. Further discussion on the expansion of vegetable plantations on a large scale is provided in chapter five of the thesis.

2.4.2 Factor of Rapid Land Development

In the drive to achieve the status of a developed country, most of the states in Peninsular Malaysia have put land development at the top of their agenda in order to generate more income and revenue whilst trying to achieve the status of developed state. We can name land development in today's scenario as mixed development because the land development is no longer confined to cultivation activities but also refers to development of residential, industrial and plantation areas.¹²⁶

¹²³ FELDA, Annual Report 2008, *Land Development*, (Kuala Lumpur: FELDA, 2008), 38.

¹²⁴ Department of Agriculture, Pahang 2006, quoted in

<http://sdap.pahang.gov.my/index.php?option=com_content&task=view&id=28&Itemid=29> 12.5.2010

¹²⁵ Preliminary EIA for proposed Agriculture Plantation Project at PT5236,5237 & 5238, Mukim Ulu Nenggiri, Daerah Bertam, Gua Musang, Kelantan Darul Naim.

¹²⁶ Interview with Director of Forest Management Unit, Forestry Department of Peninsular Malaysia on 18 Feb. 2008. See also Ainol Amriz Ismail, "Kerajaan Kecewa Bukit Diteroka", *Utusan Online* 14 June 2012, 10 Oct. 2012 <http://www.utusan.com.my/utusan/info.asp?y=2012&dt=0614&pub=Utusan_Malaysia&sec=Selatan&pg=ws_03.htm#ixzz28IDa8

Among the factors in this rapid mixed development is the migration of people from rural to urban areas in search of jobs and suitable workplaces and attempting to fulfil their needs, both basic and luxury. Besides the migration of people, the Malaysian tourism industry also contributes to the rapid development of hotels and resorts, which involves acres of forest and coastal areas. Hence, a large amount of forested areas has to be sacrificed, and this is a serious situation. The establishment of new urban areas such as Nusajaya, Kota Iskandar in Johor is evidence of rapid land development. Although such development may generate revenue and foreign investment for the government, about 20,000 acres of forest area is nevertheless sacrificed.¹²⁷ The establishment of new urban areas is the outcome of the government's policy of creating investment opportunities, especially for foreign investors.

2.4.3 Forest Fires

Burning trees in forest areas for the purpose of land development is seen as the easiest method of clearing hectares of forested land; however, it has detrimental effects not only on the health of the forest environment but also beyond the forest ecosystem. The increased amount of plantation activities in Malaysia and the expansion of plantations to other states such as Indonesia have contributed to the lack of environmental conscience. Open burning of large forest areas has polluted the air with ash and debris which create a harmful atmosphere for both humans and flora and fauna.

“Human-induced causes, including conversion to agricultural land, dismantling of agro-forestry systems, overgrazing, unmitigated shifting cultivation, unsustainable forest management including poor logging practices, over-exploitation of timber, illegal logging,

LrR>. See also Hammond, Don, *Commentary on Forest Policy in the Asia-Pacific Region (A review for Indonesia, Malaysia, New Zealand, Papua New Guinea, Philippines, Thailand and Western Samoa)*, (Thailand: Asia-Pacific Forestry Commission, 1997), 5.

¹²⁷Interview with Director of Johor Forestry Department in Johor Bharu on 22 Apr. 2009. See also Iskandar Malaysia, *Zon Ekonomi Utama B: Nusajaya*, 19 Dec. 2012 <<http://www.iskandarmalaysia.com.my/zon-ekonomi-utama-b-nusajaya-medini>>.

cutting for fuel wood and charcoal, over-exploitation of non-timber forest resources, introduction of alien and/or invasive plant and animal species, infrastructure development (road building, hydro-electrical activities, urban sprawl), mining and oil exploitation, forest fires caused by human, and pollution.”¹²⁸

The above-mentioned human activities are reported to be direct causes of loss of forest biodiversity and this includes forest fire. The report prepared by the Secretariat of the Convention on Biological Diversity shows that most countries, be they developed or developing, suffer the same problem of depletion of forest biodiversity caused by human activities.¹²⁹

The enforcement of related law alone is insufficient to control forest fires caused by humans; it is necessary to establish states’ responsibility to adhere to international decisions and arrangements, especially in dealing with other states that start forest fires.¹³⁰ Political will and cooperation between affected states is considered vital in ensuring effective environmental control of forest fires.¹³¹

2.5 Conclusion

Natural ecosystems consist of various elements such as water, land, air, and all living things within it. These are all interrelated and function as single units of a perfect ecosystem; if one unit is destroyed or interrupted, the naturally well-functioning ecosystem will deteriorate, thus contributing to unexpected catastrophe. That has occurred in present-day forest situations. The unique function of forest has been

¹²⁸ Thompson, Ian, et al., *Review of the Status and Trends of, and Major Threats to, Forest Biological Diversity*, (Montreal: Secretariat of Biological Diversity, 2002) at 14.

¹²⁹ *Ibid.*

¹³⁰ Azmi Sharom, Untying the Gordian Knot: Extending Jurisdiction to Combat Transboundary haze Pollution, (2005) 1 *The Malayan Law Journal* lxxxviii.

¹³¹ *Ibid.*

manipulated and destroyed by greedy humans who prefer to raise their profits rather than maintain the ecosystem.

In the case of forest in Peninsular Malaysia, it is obvious that the forest environment has been mainly deteriorated by development activities such as the expansion of large-scale agricultural and vegetable plantations, rapid land development and forest fires. Thus, illegal logging is no longer a serious problem because it is now under control.¹³² Humans are responsible for ensuring that this treasure is sustained and managed.

Hence, we can imagine what will happen in the future if the forested land continues to decrease year by year. Despite the efforts to apply a systematic cutting cycle in order to ensure that the vegetation of the forests is sustained and other efforts of conservation and protection by forest department such as setting aside parts of forests as virgin forest (Virgin Jungle Reserves (VJR)),¹³³ it seems that the amount of forested land throughout Peninsular Malaysia is still decreasing, and the evidence of deforestation in daily news stories carried by the media has inspired the researcher to carry out a study particularly on the law and policy implications of conservation of tropical forests in Peninsular Malaysia. This perilous situation is exacerbated by the lack of a comprehensive law that precisely outlines the importance of conservation of forests in Peninsular Malaysia. However, we can still treasure the most relevant laws relating to forests in national and international level which these laws are discussed in chapter four of the thesis.

Therefore, the uniqueness of forest in Peninsular Malaysia cannot survive on its own. Concerted efforts by those in authority to implement relevant forest legislation are essential for forests in Peninsular Malaysia to survive. Nonetheless, in the course of

¹³² See para 2.4, note 111.

¹³³ *Ibid.*

implementing this forest-related legislation, certain issues need attention and are worth discussing, such as the complexity of forest jurisdiction and the relationship between federal and state governments of Peninsular Malaysia and also other stakeholders in forest conservation matters. Nevertheless, the extent to which these issues may become factors of forest survival in Peninsular Malaysia is really significant and this will be discussed in the following chapter of the thesis.

CHAPTER THREE: FOREST GOVERNANCE IN PENINSULAR MALAYSIA

3.1 The Growth of Forest Governance in Peninsular Malaysia

The importance of forest conservation for the purpose of forest survival has been highlighted in the previous chapter. Therefore, in order to ensure the forest's survival it is vital for forest to be safeguarded and preserved by those with forestry skill and knowledge. In Peninsular Malaysia, forest conservators with forestry educational backgrounds are placed in every State Forestry Department (SFD) and the forest headquarters with responsibility for managing forests all over Peninsular Malaysia. At the same time, state governments have power and jurisdiction over forests as provided under the Federal Constitution¹ (FC) whilst federal government is entitled to give technical and financial advice relating to forests. Therefore, it is essential to study this complex relationship between Federal and State Governments pertaining to forest-related issues in this chapter as well as the function of forest conservators in every state's forestry department in conserving this heritage. Before going on to discuss the complex aspects of forest governance in Peninsular Malaysia, it is necessary to briefly discuss the historical aspect of forest governance in Peninsular Malaysia.

The first move to administer this green heritage was made as early as the 19th century when the first Forestry Department was established in 1883 during British Colonial rule in Malaysia.² This was due to the fact that the size of the green area had been decreasing as a result of massive logging operations at that time. In order to mitigate the consequences the authorities began to identify and locate protected green areas³ the outcome of which was a number of protected green areas being gazetted: In Negeri

¹ Laws of Malaysia Federal Constitution, the 9th Schedule, List II- State List.

² Sahabat Alam Malaysia, *Malaysian Environment in Crisis*, (Penang, Sahabat Alam Malaysia, 2006), 61. See also Ray, R.G., *Forestry and Forest Classification in Malaysia*, (Ottawa: Department of Fisheries and Forestry, 1968), 18-19.

³ Interview with Director of Forest Management Unit, Forestry Department of Peninsular Malaysia on 18 Feb. 2008.

Sembilan, the Permanent Reserved Forest of Triang (gazetted on 06.06.1909), and the Permanent Reserved Forest of Tampin (gazetted on 01.08.1910); whereas in Kelantan, the Permanent Reserved Forest of Temangan (gazetted on 06.07.1937), and Permanent Reserved Forest of Semerak (gazetted on 05.12.1939).

The initial British efforts to protect some parts of the forest might be regarded as a milestone to the next step in forest administration. However, this is debatable because, at that time, most of the forest was categorized according to commercial interests and the areas were named after the species of trees found in the forest; i.e. if there were lots of *Meranti* and *Keruing* the forest was classified as *Meranti-Keruing* Forest/*Hutan Meranti-Keruing*.⁴ In reality, the forest was not protected as it was chopped down for commercial purposes due to its categorisation.

3.1.1 Pre-Independence Forest Governance

The existence of forest administration during the colonial period was indicated by the appointment of A.M. Burn-Murdoch as the first Conservator of Forest on 16th October 1901.⁵ The governance of forest, which was based on the Indian Model, was to include Straits Settlement (Pulau Pinang and Melaka) and Federated Malay States (Perak, Selangor, Negeri Sembilan and Pahang).⁶ Only the Unfederated Malay States (Perlis, Kedah, Johor, Kelantan and Terengganu) were not governed by the British at that time. The established forestry department was made responsible for forest administration, management and development of the forest as states' resources. The first forest policy statement was passed in 1922 but only materialized as an Interim Forestry Policy for the

⁴ See note 3.

⁵ See note 2. See also Manokaran, N., Status of Biodiversity Research in Malaysia, *Proceedings of an International Workshop on Biodiversity at Taipei, Dec. 8-14 1992*. Eds. Hsu Ho, Chung, et al., (Taiwan: Taiwan Forestry Research Institute, 1992).

⁶ *Ibid.*

Federation of Malaya in 1952.⁷ Only after that did the Forestry Department pass to the Federation of Malaya, in 1960.⁸

3.1.2 Current Development of Forest Governance

The establishment of the National Forestry Council (NFC) in 1971 by the National Land Council⁹ has witnessed progressive achievements in forestry matters. Thus, members of the Council¹⁰ can collaborate and bring together forestry policy under standard rules which can be adapted by all states in Peninsular Malaysia.

Since pre-independence until post-independence, the 1952 Interim Forestry Policy guided forestry matters over the years until the National Forestry Policy 1978 (Revised 1992)¹¹ (NFP) adopted interim measures; specifically, the endorsement by the National Land Council was made on 10th April 1978 in order for all states in Peninsular Malaysia to implement the NFP.¹² As the challenges in the forestry sector became more intense due to the increased understanding of the significance of sustaining the forest environment rather than using forest for purely commercial resources, the NFP 1978 was revised on 25th August 1992, followed by the National Land Council endorsement on 19th November 1992.¹³ Quoting the statement by the 1992 Director General of Forestry Department of Peninsular Malaysia, Dato' Ismail bin Awang, 'Since its endorsement, the Policy has served as the foundation which has guided the country in forest resource development, research, control and management.'¹⁴

⁷ *Ibid.*; a Federal Forest Policy only became known after 1952.

⁸ *Ibid.*

⁹ *Id* at 61-62.

¹⁰ Members of the NFC consist of the chief ministers of each state and several related federal ministers.

¹¹ The National Forestry Policy 1978 (Revised 1992), Approved by the National Land Council on the 19th November 1992, Forestry Department of Peninsular Malaysia.

¹² *Id* at iv.

¹³ *Ibid.*

¹⁴ See note 11.

In order to systematically manage forest in Peninsular Malaysia, it is vital to comprehend the coverage of forest which encompasses different types of jurisdiction. There are three types of jurisdiction over forest in Peninsular Malaysia: firstly, Permanent Reserved Forest (PRF) under the governance of the Forestry Department; secondly, forest on the state land and under the jurisdiction of the state governments of Peninsular Malaysia; and, thirdly, alienated land which belongs to individuals or groups with possession of title.¹⁵

3.1.2.1 Permanent Reserved Forest (Productive and Protective Forest)

The first type of jurisdiction over the PRF is that of the Forestry Department of Peninsular Malaysia (FDPM), the headquarters for ten states' forestry departments¹⁶. It is located in a suburb of the Federal Territory of Kuala Lumpur and has a leading role in ensuring the standardization of forestry practices and programs in those eleven states of Peninsular Malaysia, besides providing the states' authorities with technical advice.¹⁷ Presently, the FDPM governs a total area of 4.91 million ha of permanent reserved forest in Peninsular Malaysia.¹⁸

The Director of FDPM exercises power to govern forest in Peninsular Malaysia through section 6 of the National Forestry Act 1984¹⁹ (NFA). The role of the director is vital in ensuring the comprehensibility of the state forest management plan as the states' authorities will refer to it in any matters relating to forests. Nonetheless, the State Executive Council of the state government is having the final say on forest development and planning. The director is also a member of the National Forestry Council and

¹⁵ Interview with Director of Forestry Department of Selangor on 6 Feb. 2009.

¹⁶ Forestry Departments of Perlis, Kedah, Pulau Pinang, Perak, Selangor, Negeri Sembilan/Melaka (Forest Office), Johor, Pahang, Kelantan, Terengganu and Federal Territory of Putrajaya and Kuala Lumpur.

¹⁷ Ministry of Primary Industries, Malaysia, *Forestry in Malaysia*, (Ministry of Primary Industries, Malaysia, Kuala Lumpur, 1988), 10.

¹⁸ Official Website Forest Department Peninsular Malaysia, *Maklumat Perangkaan Hutan Bagi Tahun 2011*, 18 Dec. 2012 <<http://www.forestry.gov.my/index.php/ms/pusat-sumber/statistik.html>>.

¹⁹ Laws of Malaysia the National Forestry Act 1984 (Act 313).

carries out the function of advising the federal government and the Council²⁰ pertaining to interests of the realm. Thus the role of the director in giving technical advice is seen to be of great consequence.

The reorganization of the government cabinet in 2006 has re-assigned the Forestry Department to the Ministry of Natural Resources and Environment (MNRE) where previously it was placed under the Ministry of Primary Industries and the Ministry of Plantation Industries and Commodities. Thus, this reshuffle shows the shift in the government vision regarding forest by considering the significance of the forest environment rather than viewing forest in terms of commercial interests.

3.1.1.2 Forest on the State Land

Forest attached to state governments' land is not under the governance of the FDPM; it is under the complete control of the Executive Councils of each state throughout Peninsular Malaysia. According to the 2011 forestry statistics, the total forest area of state land throughout Peninsular Malaysia is 0.31 million ha.²¹

The State Executive Council is headed by the Chief Minister (*Menteri Besar*) who is the chairman of the State Government Meeting Council (*Majlis Mesyuarat Kerajaan Negeri*) which decides and controls the utilization of land for development or preservation (i.e. establishment of recreational forest or state park). Nonetheless, it is obvious that most of the state land has been cleared for development purposes while the preservation agenda is more likely to preserve the existing recreational forest or state park.

²⁰ See note 17.

²¹ See note 18.

Recent forest governance by the State Government Authority has witnessed massive clearance of forested land, particularly due to the eagerness of a number of states to gain ‘developed’ status, i.e. *Selangor Maju 2010*, in the southern part of Peninsular Malaysia, and *Kedah Maju 2015*, *Perak Maju 2015*, in the northern part. Enormous forest clearance operations will cause harm to forest biodiversity and also change the balance of nature (i.e. degradation of soil quality and water retention quality, especially rivers, with millions of people depending on these natural resources). Therefore, the states’ authorities should take the first step to examining whether the existing environmental laws and policies and the related rules and procedures have been strictly enforced and conformed to and as the state legislature, they should ensure that forests are being governed by the law and policy that attentive to environmental matters.

3.1.2.3 Alienated Land

A total area of 0.015 million ha²² of alienated land has been in possession of individuals or groups with documents of title in 2006. Currently, it can be seen that most of the alienated land that was distributed in the early days by the state government has been widely opened up and utilized for development and agricultural purposes.

Jurisdiction to govern this type of land is totally under the control of the landowner and no other party may encroach. However, should the proprietor decide to develop the land, it would be within the ambit of the local government authority to ensure that all rules and procedures, especially those relating to environment and forest biodiversity, had been complied with in order to avoid detrimental effects on the environment.

²² Forestry Department Peninsular Malaysia, *Forestry Statistics Peninsular Malaysia*, (Kuala Lumpur: Forest Department, Peninsular Malaysia, 2006), 21.

Clearance of forest has been part of the cause of a series of landslide tragedies²³ of which the landslide tragedies at Taman Bukit Mewah and Taman Bukit Utama, Bukit Antarabangsa Hulu Klang were the most recent, when four people were killed after 14 bungalows collapsed because of the landslide.²⁴ Hence, the vanishing of the forest cannot be considered insignificant and in fact can lead to the loss of lives.²⁵

Nevertheless, a different situation occurred in the Northern and Eastern part of Peninsular Malaysia, i.e. Perlis, Kedah, Perak, Kelantan, Terengganu, where most of the alienated land belongs to villagers. The problem with the villagers is that they have always treated the forested land (especially the Permanent Reserved Forest) as theirs, and have cleared forested areas and planted lots of fruits trees on the land.²⁶ As a consequence the forestry department needs to conserve the forested land that has been cleared by the villagers; this involves time and costs in order for the forest area to regenerate.

3.1.3 Emphases of Forest under the Malaysia Plan

The growth of forestry sector in Peninsular Malaysia can also be seen in the preceding Malaysia Plan. For instance, the Third and Fifth Malaysia Plans had set out to maintain and conserve the environment, especially forest. The Third Malaysia Plan stressed that development has been a factor in the disturbance of natural forest; hence, the Plan called for justified approaches to reduce this problem.²⁷ This has been visualized by certain forest conservation strategies introduced in order to reduce major impacts on the forest

²³ Suluhbidai, "Impak Alam, tanah runtuh keuntungan dan tangisan", *Utusan Online*, 6 December 2008, 13 December 2008 <http://www.utusan.com.my/utusan/info.asp?y=2008&dt=1206&pub=utusan_malaysia&sec=Impak Alam&pg=al_0.1_html>.

²⁴ Ahmad Nazri Mohamad, et al., "Jeritan Terakhir", *Metro Ahad*, 7 December 2008, See also Mohd Fazli Zainul Abidin, et al., "Bukit Maut", *Sinar Harian*, 7 Disember 2008.

²⁵ Azman Anuar, "Pembeli, pemaju, kerajaan kena fikir kehebatan kuasa alam", *Utusan Online*, 13 December 2008 <http://www.utusan.com.my/utusan/info.asp?y=2008&dt=1213&pub=utusan_malaysia&sec=Rencana&pg=re_0.5html&arc=hive>.

²⁶ Interview with Assistant Director of Operational Unit, Forestry Department of Perlis on 25 Apr 2008.

²⁷ See note 17 at 22.

environment.²⁸ The approach to assimilate the huge range of species in regenerated forest has been regarded as a promotion of genetic conservation and this is seen as remarkable.²⁹ Another remarkable effort to conserve forest is the plan to provide an area of 2.22 million acres of national parks for multiple uses in order to establish a system for national parks, nature reserves, wildlife sanctuaries and virgin jungle reserves.³⁰

The Fifth Malaysia Plan (1986-1990) emphasized the designation of areas of forest for conservation. It also introduced preventive measures to protect the environment against destruction and these were monitored by the government and its agencies all over the country. Nevertheless, the Plan further stated that both the public and private sectors should be encouraged to participate in government efforts to disseminate the message of environmental awareness.³¹ The Plan also listed the significance of protecting the quality of the environment for the purposes of 'productive capacity of the country's land resources' (i.e. agriculture, forestry, fisheries and water); these efforts are also intended to meet the needs of the general population.³² As a safety measure in terms of future development projects, the Plan reiterated the importance of enforcing the Environmental Impact Assessment in order to ensure that related agencies adhere to the rules and regulations pertaining to the assessment process.³³ This is vital in order to prevent unexpected problems, especially in the forest environment.

The Ninth Malaysia Plan (2006-2010), however, is concerned with strengthening the existing efforts to protect the environment and natural resources conservation strategies in order to provide a better quality of life. Furthermore, the Plan underlined the importance of sustainable natural resources management practices where forest has been

²⁸ *Ibid.*

²⁹ See note 17 at 22-23.

³⁰ *Id* at 23.

³¹ *Ibid.*

³² The Third Malaysian Plan (1976-1980), Prime Minister Office, Kuala Lumpur . See para 664.

³³ See note 17 at 23.

listed among the country's other important resources, i.e. land, water, energy and marine resources.³⁴

The above brief discussion on the current development of forest governance in Peninsular Malaysia indicates commitments and efforts by the government towards ensuring the survival of forest biodiversity in Peninsular Malaysia. However, all the efforts will be meaningless if interested parties and stakeholders fail to observe the relevant laws and policies on forest biodiversity. The researcher will now discuss the constitutional aspect of forest in Peninsular Malaysia in order to see forest conservation in the current system of government before presenting discussion of more related laws and policies on forest which will be discussed in chapter four of the thesis.

3.2 Forest in Peninsular Malaysia: Relationship of Forest Authorities

Forests in Peninsular Malaysia have been protected and conserved by numerous related agencies. To ensure the sustainability of forest in Peninsular Malaysia, the federal government has set up special departments specializing in forestry. These forestry departments have been established in ten states in Peninsular Malaysia, with the FDPM as the federal forest agency providing technical and financial assistance. The State Forestry Departments (SFDs) function as forest-monitoring agents with the expertise in managing forest for preservation and conservation purposes besides generating revenue for the state governments. All of these government's entities are subjected to national policy on forest passed by the federal government i.e. The National Forestry Policy 1978 (Revised 1992). Whether forests in Peninsular Malaysia could be sustained with the existing constitutional system is discussed in the following section.

³⁴ The Ninth Malaysia Plan (2006-2010), Prime Minister's Office, Putrajaya. See chapter 22.

3.2.1 Relationship between the Federal and the State governments

Federal and state government relationship in Malaysia is complex. As stated under the Federal Constitution, there are several provisions described federal government jurisdiction for instances as provided under Article 74³⁵, Article 75³⁶ and Article 76³⁷ as compared to state government jurisdiction provided under Article 74³⁸ and Article 77³⁹. Article 92(1) also stated the federal government's discretion to develop areas of land without providing any compensatory instrument and security. In these cases the federal government could easily claim that such developments are in the national interest.⁴⁰ Another established federal government power is the authority to provide technical advice on forest matters, for instance management and development, carrying out research and providing forest education.⁴¹ Besides that, federal government also has the role of promoting wood-based industries and trade.⁴² Nonetheless, the federal government through Article 76 (1) (b) of the FC has jurisdiction for the purpose of uniformity of laws by implementing international obligation for instances the National Policy on Biological Diversity is a result of Malaysia is a party to Convention on Biological Diversity.⁴³ All the same, the rationale for giving authority to the federal government is perhaps for the purpose of building a close relationship between federal and state governments pertaining to all aspects of forest.⁴⁴

³⁵ Article 74: Power of the Parliament to make laws as provided under the federal list, concurrent list or as provided by the Constitution. See also Shad Saleem Faruqi, *Document of Destiny The Constitution of the Federation of Malaysia*, (Petaling Jaya: Star Publications (Malaysia) Berhad, 2008) 165-172 (The author underlines ways the centre can encroach on State rights without much difficulty).

³⁶ Article 75: The federal laws prevail upon inconsistency of the state law. See also Shad Saleem Faruqi at 171-172 (Article 75 should be read with the Articles 73, 74 and the Ninth Schedule for a clear demarcation jurisdiction of both Federal Parliament and State Assemblies).

³⁷ Article 76: The federal government has power to interfere in both forest and land (state government affairs)

³⁸ Article 74: Power of the state legislature to enact law.

³⁹ Article 77: Residual power of the state legislature

⁴⁰ Abdul Aziz Bari, *Malaysian Constitution: A Critical Introduction*, (Kuala Lumpur, The Other Press, 2003), 134.

⁴¹ See note 11.

⁴² *Ibid.*

⁴³ This is further discussed in Chapter 4 of the thesis.

⁴⁴ *Ibid.* The state and government act as mediator among stakeholders, see Schmithüsen, Franz, "Understanding Cross-sectoral Policy Impacts-Policy and Legal Aspects", *FAO Forestry Paper 142*, Eds., C.Dube, Yves and Franz Schmithüsen, (Rome: FAO, 2003), 5-44.

Jurisdiction to govern forests in Peninsular Malaysia has been clearly stated under List II of the Ninth Schedule of the Federal Constitution of Malaysia (FC). Under the schedule, forest is listed under the state matters; hence it is up to state governments' legislatures to make laws regarding forest within their territory.⁴⁵ Article 77 of the FC also gives residual legislative powers to the states; however, this provision is peculiar in the sense of the extent to which the provision works as most of the final decisions are under the federal government's control.⁴⁶

Despite the fact that there is proviso in the FC that gives state governments options on whether to adopt legislation passed by the Parliament or otherwise, state governments tend to adopt it⁴⁷ for instance the forest policy and the amended provision are never being contested or rejected by the state government⁴⁸.

In the case of *Mamat bin Daud*⁴⁹, the judges delivered their judgements on the basis of "pith and substance". By a majority of 3-2, the court decided that the new provision of 298A of the Penal Code is *ultra vires* of the constitution and thus invalid. The court further stated that, as this was a case involving the Islamic religion, it was within the states' jurisdiction to legislate and not the federal authorities'. This shows the important role of the Court in its approach to interpreting the indirect meaning of legislation, thus protecting the state authority from being jeopardized by the federal government.

The decision in the *Bakun* case⁵⁰ however had reflected the approach of our court in dealing with the public's rights to environment.⁵¹ In this case, the federal law (the

⁴⁵ See note 1. See Art 74(2).

⁴⁶ See *Ketua Pengarah Jabatan Alam Sekitar & Anor v. Kajing Tubek & Ors and Other Appeals* [1997] 3 MLJ 23, CA quoted in Abdul Aziz Bari and Farid Sufian Shuaib, *Constitution of Malaysia: Text and Commentary*, 2nd ed., (Petaling Jaya: Prentice Hall, 2006), 149-151.

⁴⁷ See note 1. See Art 74(2).

⁴⁸ See Chapter 4, note 109.

⁴⁹ *Mamat bin Daud & Ors v Government of Malaysia* [1988] 1 MLJ 119, SC.

⁵⁰ *Ketua Pengarah Jabatan Alam Sekitar & Anor v Kajing Tubek & Ors* [1997] 3 MLJ 23.

Environmental Quality Act) has been amended by excluding the construction of dam as a prescribed activity under the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 (the EIA).⁵² Thus to the effect, the Sarawak Natural Resources and Environment Ordinance 1949 came into force with no mandatory provision of making the EIA report available to the public.⁵³ The High Court in this case held that the residents of Bakun had a constitutional right to be given the opportunity to give their views on the EIA report and the transferring of authority from the Federal government to the Sarawak State government was unlawful. Unfortunately the Court of Appeal reversed this decision by stating that since the dam in question was on land and because land is in the state list, the matter rightfully belongs in the jurisdiction of the state. This is an unfortunate interpretation of the nature of the EIA process and the constitution and should not be followed.⁵⁴

In the case of *Awang @ Harun bin Ismail & Ors v Kerajaan Negeri Kedah & Ors*⁵⁵ the learned judge held that the defendant must be estopped by the principles of *res judicata* from once again raising the issue of *locus standi* in this matter. In this case the state government has violated the gazetted structure plan and the judge clearly mentioned the following: ‘Clearly, then, they come within the class of persons the structure plan seeks to protect, those who have homes, orchards or padi fields within the area, those whose source of water are the rivers running in the area for which the forest represents an important water catchment area.’ This shows that public rights are still protected under the federal law, in this particular case the Town and Country Planning Act.

⁵¹ Nijar, Gurdial Singh, *The Bakun Dam Case: A Critique*, [1997] 3 MLJ ccxxxix.

⁵² *Ibid.*

⁵³ *Ibid.*

⁵⁴ Azmi Sharom, “Understanding the Environmental Quality Act 1974”, *Current Legal Problems in Malaysia*, ed., Mimi Kamariah, (Kuala Lumpur: University of Malaya Press, 1998), 13-16.

⁵⁵ *Awang @ Harun bin Ismail & Ors v Kerajaan Negeri Kedah & Ors* [2010] 4 MLJ 83. The case is further discussed in Chapter 5 and 6 of the thesis.

There was also the issue of forest clearance at Lojing, Kelantan, where it was disputed that large tracts of forest areas have been cleared and this amounted to an objection, especially by the NGOs. However, according to the Assistant Director of the Kelantan SFD,⁵⁶ the state government of Kelantan needs to develop an area such as Lojing as an agricultural area similar to the agricultural area in the Cameron Highlands as an alternative source of state income; hence, it implied the clearance of a large area of forested land. As forest is a state matter thus; forest resources provide revenue for states and most of the states in Peninsular Malaysia. All the states depend on this natural wealth to generate income.⁵⁷

Taking into account what has been discussed before, it is clear that federal government positively maintains its sole power in any circumstances. Nonetheless, several provisions that have been made under the FC for the states' privilege, but it is being further restricted by other provisions thus, providing the central government opportunities to interfere with matters under state jurisdiction.⁵⁸

As noted earlier, federal government provides technical advice, research and educational development for the state government authorities, and the SFD to observe and implement. State governments must abide by everything passed by the federal government; indeed, state governments seem to be bound by the Act and it is definitely hard to evade it.⁵⁹

⁵⁶ Interview with Deputy Director of Forest Development Unit, SFD of Kelantan on 12 Mar. 2008.

⁵⁷ *Ibid.*

⁵⁸ Shad Saleem Faruqi, *Document of Destiny The Constitution of the Federation of Malaysia* (Petaling Jaya: Star Publications (Malaysia) Berhad, 2008), 172.

⁵⁹ *Ibid.*

Hence, the federal and state government should exercise their role and function based on the prescribed provision of the Federal Constitution.⁶⁰ The civil servant particularly also needs to know about the power and duties of the respective governments in order to give advice.⁶¹ After all, this constitutional established relationship is fundamental for both governments to observe.

3.2.2 Relationship between the State Governments and the SFD in Forest Conservation

It is crystal clear that the NFA surrenders most of its power to make decisions on forests to the state governments and the operational functions remain with the SFD. Typically, this demonstrates the duties of civil servant as mentioned earlier in giving advice to the state government. The SFD exercise and observe their function according to the National Forestry Act (the NFA) and its Policy (the NFP).⁶² The NFP was approved in 1978 to serve the aim of effective governance of forest biodiversity in Peninsular Malaysia. This policy was endorsed on 10 April 1978 by the National Land Council and functions as a guiding principle for all aspects of forest, i.e. forest resource development, research, control and management. As a result of global awareness of sustainable forest resources, the NFP was revised on 25 August 1992 and on 19 November 1992, and it has been endorsed by the National Land Council.⁶³

In 1984 when the NFA was first enacted it conveyed the agenda of standardization of forest law governing all eleven SFDs in Peninsular Malaysia, whereas previously the SFDs stood alone in governing their own forest. This idea of standardization of forest law to promote uniformity of the laws is specified under Article 76(1) (b) of the FC.

⁶⁰ Tunku Sofiah Jewa, Salleh Buang and Yaacob Hussain Merican, eds. *Tun Mohamed Suffian's An Introduction to the Constitution of Malaysia*, 3rd Ed., (Petaling Jaya: Pacifica Publications, 2007), 199.

⁶¹ *Ibid.*

⁶² Interview with Director of Johor Forestry Department in Johor Bharu on 22 Apr. 2009.

⁶³ See note 11.

The NFA governs forest biodiversity in Peninsular Malaysia, and this particular Act deals with forestry matters ranging from the appointment of the Director of Forestry Department to the provisions for forest permits, licenses, taxes and levies. The Act is seen to briefly cover all aspects of forests. In 1993 it was revised to cover the multiple uses of forest⁶⁴ as a consequence of global environmental awareness pertaining to significant functions of sustainable forest. The penalties for criminal offences have also been upgraded in order to serve as a deterrent for the public at large.⁶⁵

In the NFA, the state government has primary control over forest in most cases; for instance, the appointment of the forest director (section 3), and establishment (section 7) and excision of permanent reserved forest (section 11) must be brought to the knowledge of the State Executive Council and approved by them.⁶⁶

Despite the fact that the state government authority has total control over the forest, the state government authority has entrusted the SFD to look after its forest. Nevertheless, the SFD has jurisdiction only over forested land inside its territory. Thus, the SFD does not have jurisdiction over conserving and preserving forested land that is outside its territory, for instance state land and alienated land. This is because the state forested land and alienated land are utilized for conversion land, i.e. land for development, plantation, agricultural et cetera. Thus, neither state nor alienated forested land is being appropriately conserved; instead, it is being permanently developed for various

⁶⁴ See note 19, s 10 provides “Director to classify permanent reserved forests (1) The Director, with the approval of the State Authority, shall by notification in the Gazette, classify every permanent reserved forest under one or more of the following classifications which shall be descriptive of the purpose or purposes for which the land is being or intended to be used: (a) timber production forest under sustained yield; (b) soil protection forest; (c) soil reclamation forest; (d) flood control forest; (e) water catchment forest; (f) forest sanctuary for wild life; (g) virgin jungle reserved forest; (h) amenity forest; (i) education forest; (j) research forest; (k) forest for federal purposes. Subsection (4) however provides “A permanent reserved forest, until classified under subsection (1), shall be deemed to have been classified under paragraph (a) of subsection (1).”

⁶⁵ *Id* at sec. 15 provides “Prohibition on taking of forest produce from permanent reserved forest or State land unless licensed, etc. Subsection (2) “Any person who contravenes subsection (1) shall be guilty of an offence and shall on conviction be liable to a fine not exceeding five hundred thousand ringgit and to imprisonment for a term which shall not be less than one year but shall not exceed twenty years..”

⁶⁶ See note 19.

purposes. On the other hand, the existence of state parks which are under the control of the state government authority has more or less given the state authority the duty of conserving and protecting forest biodiversity. Thus, it is important for the state government authority to understand and appreciate the works and efforts of the SFD.

The two pieces of legislation noted above are the primary references and guidelines for forests. There are several other pieces of legislation related to conservation of forest biodiversity; for instance, the Environmental Quality Act 1974⁶⁷, the National Agricultural Policy 1984⁶⁸, the National Physical Plan 2005⁶⁹ et cetera are also of great significance in governing forest biodiversity in Peninsular Malaysia.⁷⁰ This related legislation on forests is worth discussing because of its connection with forest substance which has benefited from the primary legislation on forests; this will be further discussed in chapter four of the thesis. The overlapping of forests jurisdictions among different government agencies for example the Land Office, PERHILITAN (wild life department) Department of Director General Of Land and Mineral has also sometimes led to difficulty in sustaining forests.

The SFD is answerable to the state executive council in matters relating to forest where this has been specified under the NFA.⁷¹ The National Land Code also gives sole authority to the state government regarding all vegetation whether on or below the land; hence, this includes forest.⁷² Nonetheless, the timber on the state land ‘belongs’ to the

⁶⁷ Laws of Malaysia the Environmental Quality Act 1974 (Act 127).

⁶⁸ The National Agricultural Policy 1984. Approved on 12th Jan. 1984, Kuala Lumpur. Later replaced by the National Agricultural Policy 1992-2010, Ministry of Agriculture, Kuala Lumpur.

⁶⁹ The National Physical Plan 2005. Approved by the National Physical Planning Council on the 26th Apr. 2005, Federal Department of Town and Country Planning Peninsular Malaysia, Kuala Lumpur.

⁷⁰ Sarah Aziz, “Forest and Forestry Punctuated: regulating Peninsular Malaysia in the Next 50 Years”, Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 20-21 Mar. 2007, The National Conference on the Management and Conservation of Forest Biodiversity in Malaysia, CD ROM, (Putrajaya: Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 2007).

⁷¹ See note 19, s 4.

⁷² Laws of Malaysia the National Land Code 1965 (Act 56). See s 40(a) provides that “There is and shall be vested solely in the State Authority the entire property in (a) all State land within the territories of the State”... and see also interpretation of land in s 5 which provides that “land” includes- (c) all vegetation and other natural products, whether or not requiring the periodical application of labour to their production, and whether on or below the surface...”.

SFD and it is illegal to collecting the timber without permission from the SFD.⁷³ However, the state government has the power to decide on the development of the forested land. The NFA has specifically underlined the power of the state government and the SFD.

As mentioned above, the NFA was enacted to organize a systematic forest management and administration system and to ensure the observation of the standard legislation by all eleven states of Peninsular Malaysia. However, it is clear from the NFA that most of the power conferred under the Act has been given to the state governments. Thus, it can be said that the total power of state government authority has blocked the prime objective of the NFA which is to protect and sustain forest. Based on the interview conducted, SFD is mainly responsible for issuing licenses and permits to loggers, labelling and tagging pre- and post-felling, updating and preparing forest inventories and preparing papers in respect of any forest matters for state executive councils' approval et cetera. Therefore, the federal and state governments cannot deny the SFD's expertise in forest development and planning because the SFD is indeed the agency which is very much integral to forests.

Nevertheless, based on a series of interviews conducted by the researcher in early 2008 pertaining to the relationship between federal and state governments in respect of conservation of forest biodiversity, it was found that the SFD tends to be bound by federal or state government order and authority. The legislation passed by the federal or state government has never been contested by the SFD.

⁷³ See note 3, 15, 26, 57 and 63 (the conducted interviews).

3.3 The Efforts on Conservation of Forest in Peninsular Malaysia

In order to conserve forest, the government department of forest in every state has to comply with and abide by a number of policies and rules on forestry that have been passed by the State Executive Council. Policies such as Selective Management System (SMS) and Malaysian Criteria and Indicator (MC&I) are among the guidelines and procedures with which the SFD must strictly comply. Other than the government agencies, there are also Non-Governmental bodies (NGOs) directly or indirectly involved in forestry such as *Sahabat Alam Malaysia* (Friends of the Earth Malaysia), Malaysian Nature Society (MNS) and the World Wide Fund for Nature (WWF, Malaysia); these are among the NGOs that are actively engaged in conservation of forest in Peninsular Malaysia. These NGOs also sometimes ask the public to participate in their activities and programmes in conserving the forest. However there have also been cases where the public approached and consulted the NGO for advice on how to deal with forest conservation issues in their area.⁷⁴

3.3.1 Forest Conservation Efforts by the SFD

The revised version of NFP has underlined unique endeavours in conservation of forest biodiversity in Peninsular Malaysia. Among them is the establishment of the Permanent Forest Estate where forest will be managed according to classification of four major forest functions: protection forest, production forest, amenity forest, and research and education forest.⁷⁵

In Peninsular Malaysia, the PFE has been allocated about 4.89 million ha, and from this 1.99 million ha will be managed on a sustained yield basis as productive forest.⁷⁶ The

⁷⁴ Interview with Coordinator, Sahabat Alam Malaysia Penang (Peninsular) Office on 1 Oct. 2007.

⁷⁵ See note 17.

⁷⁶ See note 18.

rationale for the formation of forest reserve is to ensure proper surveillance and management besides improving economic returns while at the same time protecting the environment. Furthermore, the NFP laid down several forest conservation strategies for forest management, among them sustainable forest management.⁷⁷

The introduction of a more scientific forest management system, i.e. SMS which replaced the traditional Malayan Uniform System, is seen to be effective. The regime of optimal forest management will be applied to the production forest and has been created by systematic and integrated forest management and research operations. The regime is a preset limit which is imposed on the annual coupe as follows;

Table 3.1: Annual Coupe for Permanent Forest Estate and State Land

Period	Permanent Forest Estate	State land
1978-1980	108,000 ha	260,000 ha
1981-1985	74,869 ha	98,000 ha
1986-1990	71,200 ha	80,800 ha

Source: Forest Conservation, Ministry of Primary Industries Malaysia⁷⁸

The regeneration and rehabilitation process has been provided under the NFP⁷⁹ and it is important for the relevant officer of SFD to understand the basic ideas of the process in order to succeed.

Another approach towards forest conservation is known as the sustained-yield management regime where careful selection of trees which need to be felled is strictly adhered to. This pre-felling inventory is conducted to ensure that the optimum management regime has been accomplished whilst maintaining the process of ‘regeneration and rehabilitation’.⁸⁰ The measurement for tree felling for dipterocarp species must be over 50cm of dbh (diameter at breast height), whereas for non-

⁷⁷ See note 11 at 10.

⁷⁸ See note 17 at 23.

⁷⁹ See note 11 at 11.

⁸⁰ *Ibid.*

dipterocarp species the permissible measurement must be over 45 cm dbh.⁸¹ Hence, this allows species of trees to regenerate and grow in natural conditions. It is important to note also that, when the logging process is over, there must be at least 32 trees with 30cm dbh remaining intact in every hectare of the logging area.⁸² For the obligatory species, the table below shows the minimum diameter limits.

Table 3.2: The minimum diameter limits for obligatory species

	Obligatory species	Minimum diameter
i)	Mangrove Forest (All mangrove species)	7 cm dbh or at top of buttress
ii)	Peat Swamp Forest/Mixed Swamp Forest -Ramin (<i>Gonystylus bancanus</i>) -All other species	40 cm dbh 45 cm dbh or at top of buttress
iii)	Hill Mixed Dipterocarp Forest Dipterocarp species	60 cm dbh (obligatory) 45 cm dbh (optional)
iv)	Non-Dipterocarp species	60 cm dbh (obligatory) 45 cm dnh (optional)

Source: Forest Conservation, Ministry of Primary Industries Malaysia

This regime system must be strictly followed; otherwise, the next yield rotation will be affected and the area damaged if the logging area is clearly logged over without leaving a single tree. The logged-over forest will later receive a follow-up treatment.

Another crop treatment is silvicultural treatment, a process that involves the removal of competing trees in order to provide spaces for the other trees to obtain more light and nutrients for enhancement of the subsequent cutting cycle. The process in this silvicultural treatment is known as climber-cutting and poison-girdling.⁸³ Enrichment planting is carried out in poorly regenerated forest; according to the Fifth Malaysian Plan, over 400,000 ha have been treated.⁸⁴

⁸¹ *Ibid.*

⁸² *Ibid.*

⁸³ See note 17 at 32.

⁸⁴ *Id* at 23.

The forestry department also endeavours to locate and conserve various forests in their original nature; hence, the programme of Virgin Jungle Reserves (VJR) has been introduced which denotes major forest types, i.e. mangroves, beach strand, heath, peat swamps, lowland dipterocarp, hill dipterocarp, upper hill dipterocarp and montane forest type. The VJR also provide places for researchers to conduct studies, especially in ecological research areas where there are 81 VJR covering an area of 91,000 ha distributed over the forest types noted before.⁸⁵

To preserve and conserve genetic resources originating from forests, the forestry department has decided to establish a project on *in-situ* conservation. This project aims to conserve six species as follows:

- i) *Neobalanocarpus heimii* (Chengal),
- ii) *Dryobalanops aromatica* (Kapur),
- iii) *Dyera costulata* (Jelutong),
- iv) *Shorea gratissima* (Meranti Laut),
- v) *Parkia speciosa* (Petai)
- vi) *Calamus manna* (Rotan Manau).⁸⁶

Afforestation has also been recognized as one of the forestry department's attempts at forest conservation. This program refers to the introduction of tree plantations with the intention of reducing the pressure on and demand for timber from natural forests. Thus, in this afforestation program fast-growing trees of hardwood species have been introduced. Its rotation period of 15 years is shorter than the normal rotation period for indigenous natural forest, which is 60 years.⁸⁷

⁸⁵ *Id* at 27.

⁸⁶ *Ibid.*

⁸⁷ *Ibid.*

So, to return to efforts at conservation of forest biodiversity by the federal and state governments in comparison to the efforts by the SFD, it is obvious that the original practical efforts are totally driven by the SFD, while the federal and state governments, as discussed in the previous section, only provide technical advice and have full control over all aspects of the forest.

3.3.2 Alienated Land and Responsibility to Conserve Forest

The National Land Code⁸⁸ governs 0.015 million hectares of alienated land⁸⁹ throughout Peninsular Malaysia owned by individuals or groups. Attempts at determining the responsibility of proprietors of the land to conserve forest biodiversity are quite difficult because the role of conserving forest biodiversity has always been seen as the responsibility of the forestry department. The recent landslide tragedies in *Bukit Antarabangsa* should be a lesson learnt, especially by the project developer and the public at large. It is obligatory for them to ensure their property is safe for development projects. The proprietor of this alienated land should have had more sense by ensuring that everything was safe and sound before initiating the project. The tendency to accumulate profits should be avoided as this contributes to loss of lives.

All the same, everyone, be they groups or individuals, should play a role in ensuring the forest's wellbeing. Indeed, forest biodiversity is our treasure which we should collectively conserve.

⁸⁸ Laws of Malaysia The National Land Code 1965 (Act 56), refer to Part Five, Part Six, Part Seven, Part Eleven, Part Thirteen, and Part Twenty.

⁸⁹ See note 18.

3.3.3 The Non-Governmental Organisations (NGOs) and the Public

A number of Environmental NGOs in Peninsular Malaysia formed the Mengo coalition (Malaysian Environmental NGO) in November 2001.⁹⁰ The coalition was established under the DANIDA (the Danish International development Assistance); this 'agency supported a program for environmental assistance to Malaysia.'⁹¹ Mengo is thus an independent platform of Malaysian NGOs that is committed to enhancing the environmental sustainability agenda at local, national and international levels.⁹²

Nevertheless, in terms of addressing environmental issues on conservation of forest biodiversity, the most active NGO is the Malaysian Nature Society (MNS). The other issues-oriented NGO that is dynamically involved in public problems is the Friends of Nature (Sahabat Alam Malaysia-SAM).⁹³ The World Wide Fund for Nature (WWF) also vigorously engages in preserving endangered animal species; nonetheless, they participated in the project of gazetting the Royal Belum.⁹⁴

As concluded in an earlier section, everybody plays their role in safeguarding the green heritage, including the NGOs and the public. The NGOs and public are highly interrelated as these environmental NGOs usually involve the public in their activities and programs so that the public can benefit from them. There are also some NGOs that are easily accessible to the public, such as SAM, which is constantly being consulted by the public in dealing with environmental cases, such as in the case of the Quarry of Jerai in Kedah. The public consulted SAM with regard to the existence of the Quarry in the gazetted water catchments area. In this particular case, SAM, on behalf of the

⁹⁰ See 10 December 2008 < <http://www.mengo.org>>.

⁹¹ See 10 December 2008 <<http://www.mengo.org/aboutus.shtml>>.

⁹² See 10 December 2008 <<http://www.mengo.org/index2.shtml>>.

⁹³ See note 74.

⁹⁴ See 15.12.2008 <http://www.wwf.org.my/about_wwf/what_we_do/forests_protect/protect_projects/project_royal_belum/royal_iss ues/index.cfm>.

community, challenged the state government in court on the ground of violation of the structure plan.⁹⁵

Hence, it is expected that, with the established relationship between federal and state governments, state governments with their forestry departments, the NGOs and the public will develop a more effective environment and make greater efforts, specifically for forest conservation in Peninsular Malaysia for future generation to cherish.

3.4 Conclusion

From the above discussion, the complexity of forest law can be clearly seen. The relationship between forest stakeholders is also complex in the sense that the state government owns sole discretionary power to govern forests, and the NFP and the NFA itself depict the state governments' aspiration to sustain forest for production rather than protection. The SFD, after all, serves as an agent in determining that the operational aspect of conservation of forest biodiversity will always function systematically. Nonetheless, the SFD exercises an executive function in carrying out its duty to manage forest in Peninsular Malaysia and enforcing legislation passed by the legislature.⁹⁶ The SFD of Peninsular Malaysia should be given credit for fulfilling their tasks and their duty of conserving our green heritage even though the distribution of power and discretion is not in their favour.

The legislature should look into the primary Forestry Act (the NFA) where distribution of power between state government authority and the SFD is impracticable. Moreover, the function of federal government in providing technical advice, performing research and education, and promoting wood-based industries has minimised the role of the SFD

⁹⁵ See note 74.

⁹⁶ See para 3.2.2.

in conservation of forest biodiversity in Peninsular Malaysia because of its close relation to the forest environment.

The efforts to conserve forest biodiversity are seen to be of great significance as about 4.91 million hectares of permanent reserved forest⁹⁷ remained in 2011, which is about 37.2% that needs to be conserved by the SFD. Moreover, other forested areas are merely in the process of being converted for development purposes. The eagerness to develop land that promises billions of profits decreases the sense of integrity among the related parties to the development. The holistic approach towards understanding and implementing the relevant rules and procedures of forest environment must be instilled, especially in those interested parties to development.

Ultimately, sometimes it can be seen that the state government in the upper hand and sometimes the federal government. The current different political regime has made the relationship worst. Thus, there should be a greater understanding on federal and state relationship. This constitutional established relationship should be clearly understood especially by all forest stakeholders and it could be achieved if it is not be clouded by any political party. The other option is that the amendment of the constitution; that is beyond the discussion of the thesis. Hence, it is the role of everyone, individuals and groups, to ensure the sustainability of our forest and to conserve and preserve it for the sake of future generations.

Thus, the following chapter continues to discuss forest legislation at international and national levels, and also highlights several Environmental Law principles related to

⁹⁷ See note 18.

forest in order to gain a clear understanding of this issue of the complexity of forest law and also forest stakeholders.

CHAPTER FOUR: INTERNATIONAL AND MALAYSIAN LAW ON FOREST CONSERVATION-RELATED ISSUES

4.1 Introduction

In chapter two of the thesis, the issues of deforestation and its effects have been highlighted whereas the complexity of legal issues on the jurisdiction of forest conservation in Peninsular Malaysia has also been discussed in chapter three of the thesis. Thus, after discussing these aforementioned issues, it is essential to look at related legislation on forest in order to resolve the complexity of the forest issues by gaining further understanding of the extent to which forest conservation-related laws and policies in Peninsular Malaysia conform to the Environmental Law perspective recognized at the international level. It is important to examine how laws and rules play a role in ensuring the sustainability of this green heritage.

In this chapter, related national and international law are addressed and discussed in order to obtain a clear view of forest issues, particularly in Peninsular Malaysia. The international law here refers to Multilateral Environmental Agreements which are related to forests and forestry and to which Malaysia is a party. The Peninsular Malaysia law refers to forests Acts and Policies, *inter alia* the National Forestry Policy 1978 (Revised 1992) (the NFP) and The National Forestry Act 1984 (The NFA); other related government policies on forest conservation are referred to wherever relevant.

As mentioned in chapter two of the thesis, forests in Peninsular Malaysia are now decreasing as a result of clearance of the forested land for the purpose of development, mostly agricultural activity. Despite the need to boost the country's economy, forests should be maintained for substantial reasons. Forest issues have been highlighted since

the early 90s when the world started to gain new insights into forest in terms of environmental concerns. This has also affected Malaysia's approach to forest where the government, as the representative of a member state of the International Convention, needs to draft forest rules and policies to suit the aims of the international perspective on forest.

It is undeniable that the government of Malaysia is in the process of developing efforts to prevent its forests from being totally depleted. The National Forestry Act and its Policy are their initial legal response to the issue of forests in Peninsular Malaysia. This Act and Policy are based on the Federal Constitution; this particular supreme law of the land provides guidelines for the legislature to avoid going beyond the provisions provided under it. This has, however, affected the complexity of governing and administering forests among states in Peninsular Malaysia. This has been discussed in chapter three of the thesis.

It is believed that highlighting related provisions from both national and international legal contents will provide a better understanding of the global perspective on forests' influence, and the approach and practices of Peninsular Malaysia in dealing with the issue of forest conservation.

4.2 The Significance of Conservation of Forest in International Legal Content

Forest covers about 30% of the world's land area, i.e. an estimated 6200 m² ¹. With this percentage, forest has undeniably played a great role and function for generations. Among other environmental substances, forest is one of the focal areas to be conserved and preserved. The largest percentage of the world's forest area is in Europe due to the

¹ The data for total forest area are as at 2005. See Green Facts –Facts on Health and the Environment, Green Fact Scientific Board, 5.5.2011, 27.5.2011, <<http://www.greenfacts.org/en/forests/1-3/2-extent-deforestation.htm#1p0>>

huge amount of forest situated in the Russian Federation.² The Asian region accounts for 15% of the world's forest while Oceania has 5%, Africa and North and Central America have 17% each, South America has 21% and Europe has 25%.³

Even though the percentage of forest coverage is relatively small, forest is considered to have been included in international legal regimes among other environmental substances for participating countries to observe and comprehend. A number of international forest agreements and conventions to which Malaysia is a party have been promulgated, for instance the RAMSAR Convention on Wetlands⁴, Convention Concerning the Protection of the World's Cultural and Natural Heritage⁵, Convention on International Trade of Endangered Species of Wild Flora and Fauna (CITES)⁶, United Nations Framework Convention on Climate Change (UNFCCC)⁷ and Kyoto Protocol⁸, Convention on Biological Diversity (CBD)⁹, United Nations Forum on Forests (UNFF)¹⁰, International Tropical Timber Agreement (ITTA)¹¹, and the Non-legally Binding Instrument on All Types of Forests.¹² Forest issues have been highlighted not only in a series of international agreements and conventions but also through discussions in forums and also through forest partnerships between countries.

² Food and Agriculture Organization of the United Nations, *State of the World's Forests*, 2011, 31.5.2011, <<http://www.fao.org/docrep/013/i2000e/i2000e00.pdf>>.

³ Malaysian Timber Council, Malaysia: Forestry & Environment (Facts & Figures), January 2011, 25.5.2022, <<http://www.mtc.com.my/info/images/stories/pdf/factsheets.pdf>>.

⁴ *Convention on Wetlands of International Importance especially as Waterfowl Habitat*, opened for signature 2 Feb. 1971, UNTS I-14583 (entered into force 21 Dec. 1975). Malaysia ratified in Feb. 1971.

⁵ *Convention concerning the Protection of the World Cultural and Natural Heritage*, opened for signature 16 June 1972, UNTS 15511 (entered into force 17 Dec. 1975). Malaysia ratified on 7 Dec. 1988.

⁶ *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, opened for signature 3 Mar. 1973, UNTS I-14537 (entered into force 1 July 1975). Malaysia ratified CITES in 1977. See also Mohd Afandi Salleh, *International Environmental Conventions and Treaties*, (Petaling Jaya: International Law Book Series, 2002).

⁷ *United Nations Framework Convention on Climate Change*, opened for signature 9 May 1992, UNTS 30822 (entered into force 21 Mar. 1994). Malaysia ratified UNFF on 13 July 1994.

⁸ *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, opened for signature 11 Dec. 1997, UNTS 30822 (entered into force 16 Feb. 2005). Malaysia ratified Kyoto Protocol on 4 Sep. 2002.

⁹ *Convention on Biological Diversity*, opened for signature 5 June 1992, UNTS 30619 (entered into force 29 Dec. 1993). Malaysia ratified CBD in June 1994.

¹⁰ *Report of the fourth session of the Intergovernmental Forum on Forests*, UN ESCOR, 4th sess, UN Doc E/2000/L.32 (2000).

¹¹ *International Tropical Timber Agreement*, opened for signature 3 Apr. 2006, UNTS 49197 (entered into force 7 Dec. 2011). Malaysia ratified on 28 Sep. 2007

¹² *Non-legally binding instrument on all types of forests*, UN GAOR, 62nd sess, UN DOC A/RES/62/98 (2007). Malaysia adopted this forest instrument in 2007.

Therefore, the above-mentioned agreement and conventions will be studied to see how far forest conservation has been addressed to serve the main objective of environmental concern.

4.2.1 RAMSAR Convention on Wetlands¹³

This particular convention is known as the Ramsar Convention or the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Convention). The city of Ramsar, which is situated in Iran, had witnessed the Convention being passed on the 2nd February 1971.¹⁴ The Convention initially placed its focus on the importance of Waterfowl Habitats but broadened its scope after several years to include all aspects of wetland conservation and wise use of all wetlands.

Generally, wetlands refer to an area covered with shallow water which forms a habitat for flora and fauna.¹⁵ Nevertheless, Article 1.1 of the Convention expands the definition of wetlands as follows;

“areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres”.¹⁶

Article 2.1 of the Convention also provides that

“...[they] may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands”.¹⁷

The above provisions show the wide coverage of the meaning of “wetlands” as compared to its first approach in defining wetlands to primarily conserve the habitat

¹³ See note 4.

¹⁴ Ramsar Convention Secretariat, *The Ramsar Convention Manual: A Guide to the Convention on Wetlands (Ramsar, Iran, 1971)*, 4th ed., (Gland, Switzerland: Ramsar Convention Secretariat, 2006).

¹⁵ *Id* at 6.

¹⁶ See note 14.

¹⁷ *Ibid*.

only for water birds. Therefore the forester definitely has a vital role to play in conserving areas of wetlands, and the area is also expanded to areas adjacent to the wetlands where the water can be deeper than six metres in depth at low tide.

As at 2006, the contracting parties to the Convention numbered 153 parties from all over the world.¹⁸ There are more than 1,634 wetlands amounting to 145 million hectares which enjoy special protection; they are known as “Ramsar sites”.¹⁹ Malaysia has recognized Ramsar sites covering 41,419 hectares as follows;

Table 4.1: Ramsar sites in Peninsular Malaysia (ha)

Ramsar sites	Location	Date of declaration	Extent (ha)
Tasek Bera	Pahang	10 November 1994	31,120
Tanjung Piai	Johor	31 January 2003	526
Sungai Pulai	Johor	31 January 2003	9,126
Pulau Kukup	Johor	31 January 2003	647

Source: NRE (The Ministry of Natural Resources and Environment Malaysia).²⁰

Areas of wetlands need to be conserved for a number of reasons, i.e. environmental, social and economic aspects. Above all, the environmental aspects of conserving wetlands need to be the main concern of the contracting parties, especially those where the recent tsunami tragedy has proved the significant role of mangroves in reducing wave impacts along coastal areas of Peninsular Malaysia.

4.2.2 Convention Concerning the Protection of the World’s Cultural and Natural Heritage²¹

This convention proposes the preservation of the cultural and natural heritage of the world. Thus, for this particular study forest can also be considered as natural heritage

¹⁸ *Ibid.*

¹⁹ See note 9 at 6. See also Arif Nizam Abdullah, “Tapak Ramsar Habitat Flora, Fauna”, *Utusan* 17 Aug. 2009, 25 Aug. 2009 <http://www.utusan.com.my/utusan/info.asp?y=2009&dt=0817&pub=utusan_malaysia&sec=Laporan_Khas&pg=lk_01.htm&arc=hive>.

²⁰ NRE, quoted in Thang, Hooi Chiew, *Asia-Pacific Firestry Sector Outlook Study II - Malaysia Forestry Outlook Study*, (Bangkok, Thailand: Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific, 2009), 33.

²¹ See note 5.

where it has been clearly defined in the Convention's definition provision. Even though there is no direct mention of 'forest' stated in the provision, it tacitly indicates the importance of the conservation of natural forest habitat for flora and fauna; hence, forest can be considered as natural heritage.²² Hence, Malaysia, as a party to the Convention, should take a proactive approach in encouraging preservation and conservation of forest. This has also been clearly underlined under part II of the Convention in Articles 3 to 7²³ which recognize the duty of the State Parties to identify and protect the natural heritage with any appropriate measures.²⁴

The World Heritage Committee has considered about 936 properties to be listed as having outstanding universal value. By March 2012, 189 State Parties had ratified the Convention. Melaka and George Town are considered as Historic Cities of the Straits of Malacca, while Gunung Mulu National Park and Kinabalu Park are also on the Convention list.²⁵ Nonetheless, no particular forest site in Peninsular Malaysia has yet been recognized as a natural heritage site even though there are various areas of forest

²² The statement is under Article 2 of the convention, "...areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of science and conservation". See Convention Concerning the Protection of the World Cultural and Natural Heritage.

²³ Article 3: It is for each State Party to this Convention to identify and delineate the different properties situated on its territory mentioned in Articles 1 and 2 above.

Article 4: Each State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.

Article 5: To ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory...

Article 6: 1. Whilst fully respecting the sovereignty of the States on whose territory the cultural and natural heritage mentioned in Articles 1 and 2 is situated, and without prejudice to property right provided by national legislation, the States Parties to this Convention recognize that such heritage constitutes a world heritage for whose protection it is the duty of the international community as a whole to co-operate

2. The States Parties undertake, in accordance with the provisions of this Convention, to give their help in the identification, protection, conservation and presentation of the cultural and natural heritage referred to in paragraphs 2 and 4 of Article 11 if the States on whose territory situated so request.

3. Each State Party to this Convention undertakes not to take any deliberate measures which might damage directly or indirectly the cultural and natural heritage referred to in Articles 1 and 2 situated on the territory of other States Parties to this Convention.

Article 7: For the purpose of this Convention, international protection of the world cultural and natural heritage shall be understood to mean the establishment of a system of international co-operation and assistance designed to support States Parties to the Convention in their efforts to conserve and identify that heritage.

²⁴ *Ibid.*

²⁵ See <<http://whc.unesco.org/en/list>> 20.6.2012.

of aesthetic value such as Tanjung Piai in Johor, Matang Mangrove Forest in Perak, and Kilim Karst Geopark.²⁶

4.2.3 Convention on International Trade of Endangered Species of Wild Flora and Fauna²⁷

This Convention (CITES) aims to ensure the survival of endangered species of wild flora (plants) and fauna (animals) from extinction as a result of over-exploitation through international trade.²⁸ Consisting of 25 Articles, it incorporates regulation of trade in specimens of species, guidelines for permits and certificates, and rules and regulations for the contracting states to follow and observe.²⁹

Related provisions upholding the objective of forest conservation can be seen in Articles III, IV and V; under these provisions certain rules and guidelines have been regulated for specific species which have been categorized based on the degree of threat of extinction. If the species is threatened with extinction, trade will be allowed only in exceptional circumstances, i.e. scientific research. Import permits can be issued only if the species is not related to commercial purposes. To ensure that the threatened species are legally traded, there is another condition to be observed; i.e. the consequence of the importation must not be to the detriment of the species' survival.³⁰ The CITES also highlights species that are protected in at least one country. Hence, to ensure the success

²⁶ The Kilim Karst Geopark was endorsed by UNESCO Global Geopark Network in 1st June 2007. See <<http://www.langkawigeopark.com.my/v2/index.php/geoheritage-a-geoforest-park/the-kilim-karst-geoforest-park/7-geopark-info>> 20.6.2012. See also Dalam Negeri, Kemusnahan Bakau Boleh Bawa Bencana, *Utusan* 15 May 2008, 25 Aug. 2009 <http://www.utusan.com.my/utusan/info.asp?y=2008&dt=0515&pub=utusan_malaysia&sec=Dalam_Negeri&pg=dn_09.htm&arc=hive> The approval is still being given to the project affected mangrove forest such as in Tanjung Piai, Johor, Kerian and Bagan Datoh, Perak.

²⁷ See note 6.

²⁸ UNEP, Convention on International Trade in Endangered Species of Wild Fauna and Flora, Official documents, 31 May 2011, <<http://www.cites.org/eng/disc/text.shtml#texttop>>.

²⁹ *Ibid.*

³⁰ *Ibid.* See How CITES works 30 Sept. 2010, <<http://www.cites.org/eng/disc/how.shtml>>.

of this particular provision, cooperation and assistance between contracting parties to the CITES is vital.³¹ Nevertheless, the list of species is not exhaustive.

4.2.4 Kyoto Protocol to the United Nations Framework Convention on Climate Change³²

The Kyoto Protocol (the Protocol) was passed in 1997; it has 192 parties including 37 industrialised countries and the European Community. These countries have committed themselves to reducing their emissions by an average of 5% by 2012 against 1990 levels.³³ The Protocol is linked to the United Nations Framework Convention on Climate Change (the UNFCCC) in terms of committing the industrialised countries to conform to the agreement; at the same time, the UNFCCC encourages the countries to alleviate the effects of their Green House Gases (GHG) emissions.³⁴

For the agreement to have an efficient outcome, the UNFCCC has outlined recommendations which could mitigate the rate of global warming. Among the recommendations is the expansion of forests. It also highlights the significance of the role of “sinks” played by trees and other green plants.³⁵ This is a clear sign of the prioritization of forest in mitigating the world’s climate change. The Protocol has also underlined that if the industrialised countries are lacking the space to establish and expand forest, they may pay for their GHG emissions to the other countries which are in need of financial facilities to maintain and establish forest in their countries.³⁶ This can

³¹ *Ibid.* See The CITES, 30 Sept. 2010, <<http://www.cites.org/eng/app/index.stml>>. See also O. Brooks, R. Ross Jones and Ross A. Virginia, *Law and Ecology: The Rise of the Ecosystem Regime*, (England: Ashgate, 2002), 327-328.

³² See notes 7 and 8. See also Farrier, D and Paul Stein, *The Environmental Law Handbook Planning and Land Use in NSW*, 4th ed., (Sydney: RLCP, 2006), 442.

³³ United Nations Framework Convention on Climate Change, *Fact sheet: An Introduction to the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol*, 28 Apr. 2011 <http://unfccc.int/press/fact_sheets/items/4991.php>.

See also Zaini Ujang, “Inisiatif Cukai Tingkat Kualiti Alam Sekitar”, *Berita Harian*, 26 Sept. 2007. See also Faudziah Aseambankers Malaysia Bhd, “Huge Potential in Carbon Trading”, *Starbiz*, 7 Jan. 2008. See also M.Sabri Yusof, *International Environmental Law*, (Kuala Lumpur: International Law Book Series, 2000), 51.

³⁴ *Ibid.* See link <http://unfccc.int/kyoto_protocol/items/2830.php>.

³⁵ *Ibid.*

³⁶ See note 1.

be considered an upright approach to establishing harmonious relationships between countries. Thus, the intention to establish and expand forest could be pursued by other countries with enormous amounts of space but few financial facilities.

4.2.5 Convention on Biological Diversity³⁷

The Convention on Biological Diversity (CBD) came into force on 29 December 1993. Eighteen months before that, 150 states had signed the CBD at the United Nations Conference on Environment and Development in Rio de Janeiro. The CBD is not a strict agreement to which the ratifying states are obliged to conform; in fact, it sets out a more flexible approach for the states to follow. The states are at liberty to adopt the most appropriate approach for implementation in their respective countries.³⁸

Several issues have been highlighted in Article 8 of the CBD where forest conservation is regarded as being addressed in the *in situ* conservation. The issues are as follows:

“Contracting Party shall, as far as possible and as appropriate:

- (a) Establish a system of protected area or areas where special measures need to be taken to conserve biological diversity;
- (b) Develop, where necessary, guidelines for the selection, establishment and management of protected area or areas where special measures need to be taken to conserve biological diversity;
- (c) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to assuring their conservation and sustainable use;
- (d) Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings;
- (e) Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas;
- (f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies;
- (g) Establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting

³⁷ See note 9.

³⁸ Glowka, L., *et al.*, *A Guide to the Convention on Biological Diversity*, (UK, Germany and Switzerland: Gland and Cambridge, 1996), 1. See also Kubasek, N K. and Gary S. Silverman, *Environmental Law*, 4th ed.,(US: Prentice Hall, 2002), 348.

- from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health;
- (h) Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;
 - (i) Endeavor to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and the sustainable use of its components;
 - (j) Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices;
 - (k) Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations;
 - (l) Where a significant adverse effect on biological diversity has been determined pursuant to Article 7, regulate or manage the relevant processes and categories of activities; and
 - (m) Cooperate in providing financial and other support for in-situ conservation outlined in subparagraphs (a) to (l) above, particularly to developing countries.”³⁹

The above matters listed under Article 8 clearly show that the importance of maintaining and sustaining the ecosystem has been emphasized for all states to benefit. The *in situ* conservation has been deliberately defined and underlined for the member states to observe and adapt as guidelines. In this Article 8, *in situ* is narrowly applied to denote protected areas where member states that wish to establish these protected area need to have criteria and conditions underlined in order to uphold the objectives of forest conservation.

This has also been highlighted in A Guide to the Convention on Biological Diversity (Box 4)⁴⁰ pertaining to the significance of maintaining the ecosystem and structure

³⁹ The Secretariat of the Convention on Biological Diversity, *Handbook of the Conservation on Biological Diversity*, 2nd ed., (Canada: Secretariat of the Convention on Biological Diversity, 2003) 106.

⁴⁰ See note 38 at 20.

where this matter has been confirmed in a research finding that there is a correlation between species diversity and the sustainability of the ecosystem.⁴¹

Therefore, it can be said that the CBD has basically given a full picture of how member states should manage their biological diversity resources in order to maintain the species within the ecosystem.

4.2.6 United Nations Forum on Forests⁴²

The Economic and Social Council of the United Nations (ECOSOC) established the United Nations Forum on Forests (the UNFF) in October 2000 which is concerned with “...management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment to this end...”⁴³ This is based on the Rio Declaration, the Forest Principles, Chapter 11 of Agenda 21 and also the Resolution of the Intergovernmental Panel on Forests (IPF) and the Intergovernmental Forum on Forests (IFF). Therefore to ensure that the objectives are met, the IPF/IFF Proposal of Actions needs to be enforced throughout the member states at national level.

4.2.7 International Tropical Timber Agreement⁴⁴

The International Tropical Timber Agreement (ITTA) is governed by the International Tropical Timber Organisation (ITTO) which primarily focuses on marketing and promoting timber processing, especially for the tropical timber producers. At its inception, the ITTA 1983 formulated strategy for tropical timber to be marketed internationally. The Fourth Session of the United Nations Conference for the

⁴¹ Pennist, 1994 quoted in Glowka, L., *et al.* at 20. See also M.Sabri Yusof, *International Environmental Law*, (Kuala Lumpur: International Law Book Series, 2000), 31.

⁴² See note 10.

⁴³ United Nations Forum on Forests, *About UNFF*, 2011. 9 May 2011 <<http://www.un.org/esa/forests/about.html>>.

⁴⁴ See note 11.

Negotiation of a Successor Agreement to the ITTA 1983, which was held in Geneva on the 21st January 1994, had concluded a statement of commitment by the respective producer countries to achieve sustainable management by the year 2000.⁴⁵

In 2006, the ITTA was revised and five more objectives were added to the 14 objectives in the 1994 agreement. The new objectives were related to social and environmental aspects of forest which had not previously been addressed: i.e. poverty alleviation; promoting consumer awareness; highlighting the capacity of members to gather statistics and information regarding timber-trading and sustainable management practices; addressing illegal logging to improve forest law enforcement; underlining the certification process for member countries in their efforts to practise sustainable forest management; promoting non-timber forest products and environmental services for the purpose of sustainable forest management practices; recognizing forest-dependent indigenous and local communities in practising sustainably-managed tropical timber-producing forests; and ascertaining new and relevant issues on timber and forest.⁴⁶ Thus, in regard to the said new objectives, Mohd Yunus concluded that ITTA 2006 is more of a green-based agreement as compared to ITTA 1994 which is more of a commodity-based agreement.⁴⁷

There are still concerns even though a number of revisions and upgrades of the Agreement have been contemplated. For instance, has the 1994 Agreement really achieved its target (i.e. to reduce the GHG emissions to the 1990 level)? There was also the issue of the skewed focus where it was contended that the Agreements were only regulated for tropical timber and there was a suggestion that the Agreement should also

⁴⁵ Environmental Treaties and Resource Indicators (ENTRI) – Full Text File, International Tropical Timber Agreement, 1994, 13.6.2007 <<http://www.ciesin.org>>.

⁴⁶ United Nations Conference on Trade and Development, International Tropical Timber Agreement, 2006, (Geneva: United Nations, 2006).

⁴⁷ See note 20.

cover other types of forests and woodlands besides tropical timber.⁴⁸ Another issue which has been raised since the 1994 Agreement was the issue of social responsibility of local communities in the forest; also, indigenous people were abandoned in the forest projects and planning even though the issue has been incorporated in the latest ITTA 2006. Therefore, mere listings of guidelines are not sufficient without the cooperation of the contracting parties.

4.2.8 Non-legally Binding Instrument on All Types of Forests⁴⁹

The United Nations, in its sixty-second session on 17 December 2007, decided to adopt and review the effectiveness of the non-legally binding instrument. This international instrument on forest recognized sustainable forest management and also expressed the delegates' concern over the continuation of forest degradation with a slow rate of reforestation.⁵⁰

There is also an achievable target fixed by the Member States: by the year 2015 all the Member States should achieve progress in managing their forest with the approach of their agreed terms.⁵¹ From the provisions of this international instrument it can be said that this instrument has covered every forest protection aspect for all types of forest for Member States to observe.

⁴⁸ *The Environment Encyclopedia and Directory 2001, Vol.3, 3rd Ed.*, (United Kingdom: Europa Publications Limited, 2000), 98.

⁴⁹ See note 12.

⁵⁰ United Nations General Assembly, *Resolution no. 62/98. Non-legally binding instrument on all types of forest*, 17 Dec. 2007.

⁵¹ *Ibid.*

4.3 The Environmental Principles Relating to Forest Conservation

4.3.1 International Environmental Law

The evolution of the Environmental Law principles can be seen in the Rio Declaration⁵² (the Declaration) when it was proclaimed in June 1992⁵³. The Declaration had guided the national legislators to instill Environmental Principles into their own laws and policies.⁵⁴ In this remarkable year, 176 states had adopted an action plan in “Agenda 21”, the Convention on Biological Diversity, the Convention on Climate Change and the non-binding Statement of Consensus on Forest Principle.⁵⁵ The first universal codification of Environmental Principles was decreed in Stockholm in June 1972 where the United Nations Conference on the Human Environment was held with the participation of 113 states.⁵⁶ The Stockholm Declaration and an Action Plan were adopted by those states and 26 principles were embedded in this Declaration.

Sources of Environmental Principles are stated under Article 38(1) of the Statute of the International Court of Justice (ICJ); the sources are international treaties, international custom and the general principles of law recognized by civilized nations.⁵⁷ Other subsidiary sources include judicial decisions and the teachings of the most highly qualified experts of numerous nations.⁵⁸

⁵² Sheridan, M and Lavrysen, L, eds., *Environmental Law Principles in Practice*, (Bruxelles: Bruylant, 2002), 59.

⁵³ Sands, Philippe and Paolo Galizzi, eds., *Documents in International Environmental Law*, (United Kingdom: Cambridge University Press, 2004), 17. See also Kubasek, N K. and Gary S. Silverman, *Environmental Law*, 4th ed.,(US: Prentice Hall, 2002), 347-348.

⁵⁴ See note 52.

⁵⁵ *Id* at 68. It is known as the Forest Principle (informal name for the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests). This is a non-legally binding document which includes recommendations for the forestry sector.

⁵⁶ *Id* at 67.

⁵⁷ *Id* at 61. See also Tunku Sofiah Jewa, *Public International Law: A Malaysian Perspective*, (Kuala Lumpur: Pacifica Publications, 1996), 40.

⁵⁸ *Ibid*.

4.3.2 International Environmental Law on Forest

These are general instruments for safeguarding the environment against any destruction on earth. It is clear that there are two principles of the Stockholm Declaration which can be associated with the discussion in this chapter; they both relate to forest conservation, namely principles 2⁵⁹ and 4⁶⁰. These principles suggested the importance of safeguarding flora and fauna, air, water and land for future generations, and nature conservation must be managed and safeguarded, especially in the process of planning for economic development.

The expansion of Environmental Principles in the Rio Declaration engendered several principles which reflect the notions of forest conservation, for instance principles 2⁶¹, 4⁶², 7⁶³, 10⁶⁴, 13⁶⁵, 15⁶⁶, 16⁶⁷, and 22⁶⁸. These principles highlighted that the focal points of environmental protection should be integrated in sustainable development, cooperation between states in conserving and protecting the earth's ecosystem, the

⁵⁹ Principle 2: The natural resources of the earth, including the air, water, land, flora and fauna, especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.

⁶⁰ Principle 4: Man has a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat, which are now gravely imperilled by a combination of adverse factors. Nature conservation, including wildlife, must therefore receive importance in planning for economic development.

⁶¹ Principle 2: States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national

⁶² Principle 4: In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

⁶³ Principle 7: States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit to sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

⁶⁴ Principle 10: Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

⁶⁵ Principle 13: States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

⁶⁶ Principle 15: In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

⁶⁷ Principle 16: National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.

⁶⁸ Principle 22: Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

importance of enacting law on liability and compensation for environmental damage, the adoption of 'precautionary approach' and 'polluter pays' principles, and public participation in decision-making processes which involve the environment in which people live, including recognition of indigenous people's right to participate, in order to uphold the principle of sustainable development.⁶⁹ Thus it can be clearly seen in the Declaration that the Environmental Principles have been expanded to include every aspect of life.

4.3.3 The Environmental Principle on Forest

In order to meet the objective of the study, it is important, in this particular section, to highlight several principles which are most connected to forest conservation. Hence, drawing on the earlier discussion on the international legal content (4.2 and 4.3), there are several environmental principles that relate to forest conservation that are sustainable development, precautionary principle, polluter pays and also intergenerational equity. These internationally recognized environmental principles are significant in term of its anticipated effective outcome for forests survival.

The first principle is on sustainable development; this principle has its origin in the Stockholm Declaration in its Principle 2 which states that

The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.⁷⁰

This principle of sustainable development is also highlighted in Principle 2 of the Rio Declaration:

States have, in accordance with the Charter of the United Nations and the principles of International law, the sovereign right to exploit their own resources

⁶⁹ See note 53 at 17-23.

⁷⁰ *Id* at 6-7.

pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.⁷¹

The term ‘sustainable development’ was reiterated in the Rio Declaration, thus showing the significance of harmonizing development with environment. The principle deals with vital issues of environmental degradation as the main concern of the principle is about sustaining natural resources which have been excessively used by the proprietor. The resources need to be sustained for the benefit of current and future generations.⁷² Thus, the principle states that, in order to preserve natural resources for future generations, it is important to foresee the feasibility of the remainder of the natural resources.

Thus, based on the principle, there is a need to foresee the trends of forest biodiversity in Peninsular Malaysia on the ground that Peninsular Malaysia’s forest resources are being depleted because of the strong consideration given to economic and business development. The urgent action needed to sustain forest biodiversity in Peninsular Malaysia is highly significant due to its multiple functions. It seems that the government of Malaysia is cognisant with the aim of the sustainability principle but the extent to which it has been implemented is another matter, as the forest is apparently being cleared in the name of economic growth. This matter is further discussed in chapter 5 of this study.

⁷¹ *Id* at 19.

⁷² McEldowney, John F and Sharron, *Environmental Law & Regulation* (London: Blackstone Press Limited,2001), 10. See also Sinha, Prabhas Chandra, Ed., *Guidelines for Human Environment and Sustainable Development*, (New Delhi: SBS Publishers & Distributors Pvt. Ltd., 2006) 146.

The second principle which the researcher would like to discuss is the ‘precautionary principle’. This relates to preventive action to avoid environmental risk or threat.⁷³ This principle has been derived from the 1987 North Sea Declaration and also indirectly from a number of Conventions and resolutions preceding it⁷⁴. This idea is clearly stated under Principle 15 of the Rio Declaration as follows:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.⁷⁵

Therefore, for this particular study, the principle can be used to assess a proprietor’s need to cut down trees in a forest area. Whether a large area of forest can be protected by applying and implementing the principle is debatable. The application of this principle, which is significant for forest conservation, can also be seen in Principle 17 of the Rio Declaration which states the following:

Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.⁷⁶

This principle is seen to be implemented in the Environmental Impact Assessment Guidelines for Forestry.⁷⁷ According to these guidelines, interaction between the project proponent, the project managers, forestry consultants and the EIA consultants’ team is necessary to ensure the smooth running of the preparation of the EIA documents.⁷⁸ This assessment process must be conducted with great integrity as it affects the quality of the environment and also reflects the related agencies’ accountability. Thus, the EIA

⁷³ *Ibid.* See also D. Sharma, “National Policy on Biodiversity: An NGO Perspective”, *Proceedings of the Conference on Biodiversity and National Development: Achievements, Opportunities and Challenges*, May 28-30, 2008. Ed. Yong, Hoi Sen, (Kuala Lumpur: Akademi Sains Malaysia, 2009), 14.

⁷⁴ See note 52 at 71.

⁷⁵ See note 53 at 21.

⁷⁶ *Ibid.*

⁷⁷ Department of Environment Ministry of Science, Technology and Environment, Malaysia, *Environmental Impact Assessment Guidelines for Forestry*, (Kuala Lumpur: Department of Environment, MOSTE, 1998). EIA prior to project approval is a mandatory requirement under Section 34A of the Environmental Quality Act 1874 for activities prescribed in the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987.

⁷⁸ *Id* at 3-8.

process can be regarded as putting the precautionary approach into practice in order to predict the detrimental effects on forest environment caused by development projects.

Another environmental principle that is strongly related to forest conservation is the 'polluter pays' principle which originated in the Organisation for Economic Co-operation and Development in a Recommendation of 1972.⁷⁹ Principle 16 of the Rio Declaration has underlined the principle as follows:

National authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.⁸⁰

The 'polluter pays' principle can be seen to have been applied in the NFA in terms of punishments for forest offenders. The NFA, among other legislation, was amended in 1993 to increase the size of the fine for the offence of trespassing and violating forest environment, for instance illegal logging. The penalty has been increased from RM2, 000 to RM50, 000 or RM500, 000 according to the degree of the offence.⁸¹

Intergenerational equity is another environmental principle which could relate to public rights in the forest. The right of the public to participate is highlighted in chapter six of the thesis. Intergenerational equity refers to the rights of future generations to receive natural wealth as it has been passed to the present generation from the previous generation.⁸²

⁷⁹ See note 52 at 70.

⁸⁰ See note 53 at 21.

⁸¹ Forestry Department, Peninsular Malaysia, *Pemahaman Mengenai Pindaan Akta Perhutanan Negara 1984 dan Implikasi Perlaksanaannya*, 18 June 2007 <<http://www.forestry.gov.my>>.

⁸² Intergenerational Equity 19.7.2012 <<http://www.uow.edu.au/~sharonb/STS300/equity/meaning/integen.html>>. quoted in Beder, Sharon, *The Nature of Sustainable Development*, 2nd Ed., (Scribe, Newham, Vic., 1996). 19.7.2012 <<http://www.uow.edu.au/~sharonb/STS300/equity/meaning/integen.html>>.

The intergenerational equity principle can be seen in two different ways: from the perspective of ‘weak sustainability’ and from that of ‘strong sustainability’.⁸³ Weak sustainability refers to the ability of future generations to create wealth as experienced by the present generation.⁸⁴ This also means that future generations would be adequately compensated for any environmental deterioration to enable them to create wealth by alternative means.⁸⁵ Strong sustainability, however, means seeing the environment as an irreplaceable substance that not even man-made wealth can restore and suggests that a degraded environment cannot be inherited by future generations even if they are supplied with extra means of wealth generation.⁸⁶

Nevertheless, it is difficult to ensure and measure the implementation of actions by the present generation required to meet their responsibilities to future generations.⁸⁷ Therefore, any problems occurring should be seen as long-term issues rather than short-term issues.⁸⁸ Thus, there should be several adjustments to institutions, economic incentives and legal instruments, as well as public awareness and a strong political will, all of which should be in line with the implementation of responsibilities to future generations from a long-term perspective.⁸⁹

The following section determines the applicability of the aforementioned environmental principles in the Malaysian law on forest conservation.

⁸³ *Ibid.*

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*

⁸⁷ Brown Weiss, Edith, *In Fairness to Future Generations and Sustainable Development*, 17 July 2012 <<http://www.auilr.org/pdf/8/8-1-2.pdf>>.

⁸⁸ *Ibid.*

⁸⁹ *Ibid.*

4.4 The Significance of Conservation of Forest in Malaysian Law

Forest conservation has been a substantial part of the environmental agenda for both Malaysia's legal regime and the international legal regime. The basis of forest jurisdiction is laid down in the Federal Constitution⁹⁰. Forest in Peninsular Malaysia is governed by the National Forestry Policy 1978 (Revised 1992)⁹¹ and the National Forestry Act 1984⁹². Besides these, there are several other policies that are mostly related to the issue of forest conservation, for instance the Third National Agricultural Policy (1998-2010)⁹³, the National Policy on Biological Diversity 1998⁹⁴ and the National Policy on the Environment 2002.⁹⁵ There are also Malaysia Plans which are related to forest; for instance, the first Malaysia Plan and all subsequent plans up to the tenth Plan clearly describe the contribution and benefits of forest. From these Plans, we can clearly see the shifting role of forest from a matter of commodity to environmental substance as a result of public awareness of the importance of sustaining the forest. Besides the Malaysia Plans, there are also other plans such as the National Physical Plan and many others which affect the existence and sustainability of forest. The plans, however, are not exhaustive as the law and policy are progressing as the outcome of the raising of environmental awareness among policymakers and the public at large.

4.4.1 The Federal Constitution⁹⁶

Forest matters are listed in the Ninth Schedule of the Federal Constitution (the FC) and have been placed under the power and jurisdiction of the state. These matters, however,

⁹⁰ Laws Of Malaysia Federal Constitution, The Commissioner Of Law Revision, Malaysia Under The Authority Of The Revision Of Laws Act 1968 In Collaboration With Percetakan Nasional Malaysia Bhd 2006.

⁹¹ The National Forestry Policy 1978 (Revised 1992), Approved by the National Forestry Council on 19 April 1978, Malaysia, Forestry Department Peninsular Malaysia

⁹² Laws of Malaysia The National Forestry Act 1984 (Act 313).

⁹³ The Third National Agricultural Policy (1998-2010), Ministry of Agriculture Malaysia.

⁹⁴ The National Policy on Biological Diversity, Approved on 16 Apr. 1998, the Ministry of Science, Technology and the Environment, Malaysia

⁹⁵ The National Policy on the Environment, Approved on 2 Oct. 2002, Ministry of Science, Technology and the Environment, Malaysia.

⁹⁶ See note 90.

have been discussed in chapter three of the thesis. Nevertheless, in order to analyse the status of forest under the FC, it is crucial to note that forest is subject to the states' power. Even though forest is subject to the states' power and control, the federal government also has power over forest for the purpose of uniformity, providing financial and technical advice. Therefore states need to conform to any efforts towards uniformity exercised by the federal government even though it will affect the states' forest planning.

4.4.2 The National Forestry Policy 1992⁹⁷

Concerns about forest preservation were first raised in 1922 when the High Commissioner of the Federated Malay States, Sir Laurence Guillemard, spoke in a Federal Council Meeting about the importance of forest conservation not only for the purpose of revenue but also for its additional benefits. In his speech, he stressed how the value of the forest would increase were it to be perfectly managed.⁹⁸ This particular speech was taken as a forest policy statement. Later, this statement was thoroughly explained in the Federated Malay States General Secretary's Annual Report. Among the points raised was that the waste of wood in the process of land clearance for development purposes was prohibited; it also emphasised the importance of spreading knowledge and information to the public with regard to the need to conserve the forest. Last but not least, it was stressed that all of the efforts made in that particular period would be appreciated by future generations.⁹⁹

Thus, we can clearly see that the concern about environmental issues in the forest have in fact existed since time immemorial even though, at that particular time, forest had

⁹⁷ See note 91.

⁹⁸ Jabatan Perhutanan Semenanjung Malaysia, *Manual Perhutanan 2003 Jilid I*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia, 2003).

59.

⁹⁹ *Id.* at 60.

been cleared for the purpose of developing new areas and cities. In 1926, the Secretary General had explained to the Federal Council about the government policy on forestry. He explained that the Federated Malay States and the Straits Settlements needed to be independent in wood resources, fuel wood and coal wood. He further explained that, in order to achieve this aim, all states must persist in conserving forested land.¹⁰⁰ Twenty-six years later in 1952, the Interim Forest Policy was established with several new approaches to forest, i.e. the establishment of Forest Reserve for the purpose of protected and production forest, managing Forest Reserve for continuing returns, etc.¹⁰¹ Later, in 1978, a Permanent Forest Policy replaced the 1952 Interim Forest Policy. The 1978 National Forest Policy (NFP) was more comprehensive in terms of strengthening the concept of sustainable forest management. In 1992, the NFP was amended to cater for the needs of classifying Permanent Reserve Forest (PRF) and eight additional forest fields.¹⁰²

The development of the NFP is seen as quite unrealistic if compared to the real situation in the forest. It seems that all forest-related matters were listed in the NFP; however, the main concern was the extent to which forest could be maintained as it is believed that there was almost no effort to replace forest after the area had been excised. Therefore, the total area of forest loss was not replaced and, even if it was replaced, the forest environment could not be restored. To conserve the damaged forest, the forest conservator would carry out conservation methods with an allocated budget¹⁰³ although the allocated budget was never able to repair the massive forest loss. Nonetheless, the

¹⁰⁰ *Ibid.*

¹⁰¹ See note 98 on 60-61. Other approaches are; to upgrade public understanding through education and development; protective forest must not be excised for other purposes; productive forest must be at least 25% of land area and the government has responsibility to administer, manage and develop forested area.

¹⁰² See note 98 on 62-63. The forest fields: legal forest, forest farm, conservation of biological diversity, forest community, recreation and tourism, scientific value, agro forestry, non-wood forest product and international cooperation.

¹⁰³ The budget for forest conservation is taken from royalty, cess, premium and others. See Annual Report 2007, (Forestry Department Peninsular Malaysia: Kuala Lumpur, 2007) 37 - See Key Performance Indicators of the Forestry Department Peninsular Malaysia

NFP should be carefully revised as the NFA will follow the revised framework of the policy.

The intergenerational equity principle can be seen in the concept of sustainable development as this concept gives priority to sustaining the present benefits for future generations to enjoy. Thus, in terms of forestry, sustainable forest management is seen to be best suited to the concept of the principle. The concept of SFM is clearly stated under the NFP which stressed the sustainability concept of forest harvesting; this method takes into account a specific number of trees that must remain after the harvesting process in order to avoid the complete destruction of the forest harvesting area. Nonetheless, the concept of SFM has been seen to give priority to economy rather than environmental and societal needs. Hence, if the SFM is diligently practised, the benefits of forest will be sustained for future generations to appreciate.

4.4.3 The National Forestry Act 1984¹⁰⁴

The National Forestry Act 1984 (the NFA) was intended to standardize all Peninsular Malaysia states' forestry laws. Prior to the NFA, various ordinances and enactments had been passed for the purpose of regulating forests in Peninsular Malaysia. The first enacted law on forest was the Forest Ordinance 1907 which was enforced in the Straits Settlements (Penang, Malacca and Singapore). Later, there were forest enactments for the Federated Malay States (Pahang, Perak, Selangor and Negeri Sembilan) collectively known as Forest Law 1914 (*Undang-undang Hutan* 1914). After that the Unfederated Malay States (Johor, Kedah, Kelantan and Terengganu) started to implement their own forest enactments.¹⁰⁵

¹⁰⁴ See note 92.

¹⁰⁵ See note 98 at 77-78.

Table 4.2: The Gazette Date for the Application of the NFA 1984 in the states of Peninsular Malaysia

State	The Gazette Date for the Application of the NFA 1984
Johor	23.02.1986
Kedah	19.11.1985
Kelantan	19.12.1986
Melaka	01.01.1985
Negeri Sembilan	31.07.1986
Pahang	17.12.1987
Perak	27.12.1985
Perlis	25.03.1988
Pulau Pinang	14.08.1986
Selangor	19.06.1986
Terengganu	09.06.1986
Wilayah Persekutuan	01.12.1984

Source: *Manual Perhutanan, Jilid 1*¹⁰⁶

Table 4.3: The Gazette Date for the Application of the NFA (Amendment) 1993 in the states of Peninsular Malaysia

State	The Gazette Date for the Application of the NFA (Amendment) 1993
Johor	29.12.1993
Kedah	03.02.1994
Kelantan	28.04.1994
Melaka	26.05.1994
Negeri Sembilan	12.05.1994
Pahang	23.12.1993
Perak	07.07.1994
Perlis	18.08.1994
Pulau Pinang	03.02.1994
Selangor	12.05.1994
Terengganu	09.06.1994
Wilayah Persekutuan	13.01.1994

Source: *Manual Perhutanan, Jilid 1*¹⁰⁷

Based on Table 4.2 and Table 4.3, it can be clearly seen that each state has its own implementation date for the NFA. This is the outcome of the lengthy period required to pass the NFA because of problems with technicalities or procedural aspects such as those experienced by the state of Perlis.¹⁰⁸ This is not, however, related to any kind of objection regarding the implementation of the NFA by the states.¹⁰⁹

¹⁰⁶ See note 98.

¹⁰⁷ *Ibid.*

¹⁰⁸ Interview with Assistant Director of Perlis SFD on 25 Apr. 2008.

¹⁰⁹ *Ibid.*

In 1993, several areas of the former NFA were amended with higher penalties and heavier punishments prescribed to punish the forest criminal or wrongdoer. However, the amended penalty does not serve deterrence purpose especially to timber tycoon. Indeed, the large amount of penalty could not even replace the damage that has already been done to the forest environment. The increased penalty should serve deterrence purpose of punishment particularly to those people in the industry. Among other amended provisions is burden of proof, which has been shifted from the prosecutor to the accused.¹¹⁰ Therefore, the process of proving forest crimes in court will be easier for the prosecutor than it was under the former provisions of the NFA.¹¹¹ Other than that, power to enforce the law has also been delegated to soldiers in ensuring forest security. Incentives and witness protection schemes are also available for those who inform about forest crimes. The amended provisions are specifically designed to upgrade the NFA, specifically in the areas of forest security and sustainable management.¹¹² Despite the amended provisions, the replacement of the excised forest area is not mandatory and there is no penalty provided on the failure of the state government or the project proponent to replace the de-gazetted forest reserved area.¹¹³ The failure of replacement of the de-gazetted forest area indeed contributes to reduction in forest coverage. Thus, the principle on polluter pays is not in practice.

To ensure that the NFA and the States' Forest Enactments are enforced, the Forest Rules (*Kaedah-Kaedah Hutan*) and the Wood-Based Industry Rules (*Kaedah-kaedah*

¹¹⁰MTC website, "What the National Forestry Act says...", 25 Oct. 2005, 31 May 2011 <<http://www.mtc.com.my>>. See also Mazwin Nik Anis, "Burden of Proof Shifts Buyer Will Have To Show That Logs Are Legal", *The Star*, 19 Sept. 2007.

¹¹¹ See note 98 at 79-80.

¹¹² *Ibid.* See also Hussain Said, "Guna Akta Atasi Kegiatan Pembalok Haram", *Berita Harian* 22 June 2007.

¹¹³ Section 12 of the NFA: State Authority to replace land excised from permanent reserved forest. Where any land is excised under section 11 the State Authority shall, wherever possible and if it is satisfied that it is in national interest so to do having regard to- (a) the need for soil and water conservation, biodiversity and other environmental consideration; (b) the need to sustain timber production in the State in order to meet the requirements of the forest industry; (c) the economic development of the State; and (d) the availability of suitable land constitute in accordance with section 7 an approximately equal area of land a permanent reserved forest.

Industri Berasas Kayu) have been enacted¹¹⁴; these Rules elaborate further on the practical side of the NFA.

The NFA has ten parts which underline specific laws on forestry, including the powers and jurisdiction of the forest officer in the related fields. It also sets out the constituents of the Permanent Forest Reserve and other types of forest.¹¹⁵ Besides that, sources of forest income such as cess and levy are also clearly defined and provided under the NFA. Overall, the NFA is more administrative in nature rather than focusing on the environmental aspects of forest. Thus, there is still room for the NFA to improve and develop as there are outstanding forest issues which demand the amendment of several provisions; this will be discussed further in the following chapter.

4.4.4 The Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 as provided by the Environmental Quality Act 1974

As stated in the official website of the Department of the Environment (DOE), the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 or the EIA¹¹⁶ “...is 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.”¹¹⁷ This legal requirement is provided in the recently amended section 34A of the Environmental Quality Act 1974 (the EQA).¹¹⁸ The accountability and integrity of the project proponent to appoint a qualified person to prepare and conduct the EIA among others

¹¹⁴ See note 98 at 78.

¹¹⁵ *Id.* at 81.

¹¹⁶ PU(A) 362/1987 came into force on 1.4.1988.

¹¹⁷ Malaysia, Official website of Department of Environment, Ministry of Natural Resources and Environment, 4 Sep. 2012 <<http://www.doe.gov.my/portal/developer/eia/eia-general-information/>>

¹¹⁸ Laws of Malaysia The Environmental Quality (Amendment) Act 2012 (Act A1441). The effective date for the enforcement of the Act is on January 2013. See also Azmi Sharom, “Understanding the Environmental Quality Act 1974”, *Current Legal Problems in Malaysia*, Ed. Mimi Kamariah Majid, (Kuala Lumpur: University Malaya Press, 1998).

are emphasised in the amendment.¹¹⁹ To support the aim of ensuring integrity of the project proponent, the DOE would prepare a list of these qualified persons for the project proponent to appoint.¹²⁰ The report prepared by the qualified person shall contain an assessment of the adverse impact on environment including proposed measures to mitigate or prevent damage to environment.¹²¹ The Director General would conditionally or unconditionally approve the EIA report after scrutinising it.¹²²

From the aforementioned amended proviso it can be said that the role and accountability of the project proponent to appoint a qualified person is significant in preventing adverse impact to the environment. Besides the appointment, the study or assessment conducted should fulfil the requirement of the report made by the DOE by having proper planning before and after the project towards preventing adverse environmental impact.

The DOE also published the Handbook of Environmental Impact Assessment Guidelines (the Handbook) in 1987 providing general procedures and requirements of EIA.¹²³ Forestry such as provided under the EIA guidelines is among others underlined as prescribed activity. Under this provision, the following activities that affected forestry matter are subjected to the EIA requirement;

¹¹⁹ (2) Any person intending to carry out any of the prescribed activity shall appoint a qualified person to conduct an environmental impact assessment and to submit a report thereof to the Director General in the manner as the Director General may prescribe
(2A) The Director General shall maintain a list of qualified persons who may carry out an environmental impact assessment and submit a report thereof.

¹²⁰ (2B) The qualified person who submits the report shall-

- (a) be responsible for the environmental impact assessment and the recommendations of the environmental impact assessment;
- (b) ensure that the report and the recommendation do not contain any false or misleading information;
- (c) take a professional indemnity insurance for any liability arising from the environmental impact assessment and the recommendations of the environmental impact assessment.

¹²¹ (2C) The report shall be in accordance with the guidelines as the Director General may prescribe and shall contain-

- (a) an assessment of the impact such activity will have or is likely to have on the environment; and
- (b) the proposed measures that shall be undertaken to prevent, reduce or control the adverse impact on the environment.

¹²² (3) If the Director General on examining the report and after making such inquiries as he considers necessary, is of the opinion that the report satisfies the requirements of subsection (2C) and that the measures to be undertaken to prevent, reduce or control the adverse impact on the environment are adequate, he shall approve the report, with or without conditions attached thereto, and shall inform the person intending to carry out the prescribed activity and the relevant approving authorities accordingly.

¹²³ Department of Environment, Ministry of Natural Resources and Environment, Malaysia, *A Handbook of Environmental Impact Assessment Guidelines*, (Putrajaya: Department of the Environment, 2007).

- (a) Conversion of hill forest land to other land use covering an area of 50 hectares or more.
- (b) Logging or conversion of forest land to other land use within the catchment area of reservoirs used for municipal water supply, irrigation or hydropower generation or in areas adjacent to state and national parks and national marine parks.
- (c) Logging covering an area of 500 hectares or more.
- (d) Conversion of mangrove swamps for industrial, housing or agricultural use covering an area of 50 hectares or more.
- (e) Clearing of mangrove swamps on islands adjacent to national marine parks.¹²⁴

Other than the Handbook, for the purpose of facilitating the project proponent and the EIA consultants the specific guidelines are formulated to complement the Handbook namely the EIA Guidelines for forestry.¹²⁵

In some cases, the project proponent carries out the project with the permission of the approving project authority without waiting for the approval of the EIA's report in order to avoid delay even though, the EIA's approval requirement is clearly stated in the section 34A (6) which states that "Any person intending to carry out a prescribed activity shall not carry out such activity until the report required under this section to be submitted to the Director General (the DG) has been submitted and approved."¹²⁶ In the case of *Tenggara*,¹²⁷ the EIA report's approval was made after the project has completed and this has indeed defeated the purpose of anticipating the environmental impact upon project.¹²⁸ Nonetheless, that was not the issue of the case.¹²⁹ This situation of EIA compliance has been frequently reported and the factors are said to be the loopholes in the law and regulation itself.¹³⁰ Thus, it is significant to note that, the final

¹²⁴ Laws of Malaysia The Environmental Quality (Amendment) Act 2012 (Act A1441) Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987. See Schedule 6 Forestry.

¹²⁵ Department of Environment, Ministry of Science, Technology and Environment, Malaysia, *Environmental Impact Assessment Guidelines for Forestry*, (Kuala Lumpur: Department of Environment, 1998).

¹²⁶ See note 118.

¹²⁷ *Tenggara Gugusan Holidays Sdn Bhd v Public Prosecutor*, [2003] MLJ 508 quoted in Azmi Sharom, "Environmental Law", *Survey of Malaysian Law 2003*, Ed. Norchaya Talib, (Kuala Lumpur: Jabatan Penerbitan Universiti, Malaya, 2003), 116.

¹²⁸ *Id* at 116-117.

¹²⁹ See note 127.

¹³⁰ Meeting with Deputy Director General (Development) of the Department of Environment on 8 Oct. 2012.

approval by the approving authority onto the project would only be given after the approval of the EIA report.¹³¹

The recent amended provisions of the EQA have at least resolved several issues involving significant effect on the preparation of the EIA Report namely assessment report which will be prepared by the appointed qualified person rather than prepared by the person carried out the project.

Another issue is pertaining to the condition of the size of logging area for submission of EIA report that is more than 500 hectares where the size itself is unreasonable. It is unreasonable because the size itself is too large for a project that involves forest hence; there will be no submission of EIA report for those projects that not exceed the size. Thus, the hectares should be reduced to avoid absurdity and also adverse impact on forest environment.

It is significant to note that the EIA study is a responsibility of the project proponent to the prescribed activities and submitted to the Director General of the DOE before getting any permission from the approving authorities to start the project. Besides that, overlapping of jurisdiction is also said to be the factor of the said issue.¹³²

In a case of non-compliance of law, the DOE would request the project proprietor to prepare and submit the Environmental Management Plan (EMP) for the purpose of project's post monitoring besides imposing penalties.¹³³ The EMP is required to be prepared by the project proprietor and submitted to the DOE for the purpose of ensuring

¹³¹ Abdullah Mohamad Said, *The Practice of Post-Monitoring and Audit in Environmental Impact Assessment in Malaysia*, (Thesis PhD, University of Wales Aberystwyth, 1997), 63.

¹³² See note 130.

¹³³ *Ibid.*

compliance to the regulations of the DOE.¹³⁴ In the EQA (Amendment) Act, section 34AA is inserted to include the power of the DG to issue prohibition order to the person carrying out the prescribed activities breached or violated the approval's condition.¹³⁵

There is also other provision that provides room for public to participate in preparing detailed EIA reports. This issue is further discussed in chapter six of the thesis. Nevertheless, this public privilege is not offered in the preliminary EIA report. In this particular process, public would submit their view to an independent body known as review panel and this panel would then make recommendations to the DG who would have the final say to the report.¹³⁶ Nonetheless, in forestry matter detailed EIA is rarely submitted by the project proponent because only small fraction of forest area involved. Hence, public participation is not required in forestry matter.¹³⁷

Therefore, the EIA study is significant in avoiding potential damages or problems or even substantial cost in its implementation or reparation after the damage thus, in line with the Environmental Principle of the precautionary approach. From the above discussion, the EIA is seen comprehensive but only due to procedural wise however, there is no direct impact on felled timber in the water catchment area and also quarry operation. Hence, the EIA should not be disintegrated in the process of planning decision-making.

¹³⁴ The objectives of the EMP are to protect, restore and enhance the environmental qualities of the areas within and around the proposed project. (A Handbook of Environmental Impact Assessment Guidelines Chapter 7 Guidelines for Preparing Environmental Management Plan p 39).

¹³⁵ See note 118.

¹³⁶ *A Handbook of Environmental Impact Assessment Guidelines*, (Putrajaya: Department of the Environment, 2007), 9, 23. Principle Features of the EIA Procedure...(d) The Public: Some form of public participation in environmental impact assessment is the most reliable way of predicting the impact of a project on people. A responsible, interested and participating public is important in environmental management.

¹³⁷ *Id* at 10. See also note 130. See also Leong Y.K., "Environmental Impact Assessment and Conservation", *The State of Nature Conservation in Malaysia*, Ed. R. Kiew, (Kuala Lumpur: Malaysian Nature Society, 1991) 227-232.

Thus, EIA is seen as an environmental risk predictable mechanism that helps to prevent harm to the environment. In this case, the accountability and the integrity of the project proponent in preparing the EIA report is considered vital and the role of the DG is also significant in maintaining the quality of environment especially in ensuring the EIA report is well documented for the purpose of avoiding further adverse impact on environment.

4.4.5 The Third National Agricultural Policy ¹³⁸

The National Agricultural Policy was passed for the purpose of eradicating poverty and also ensuring national food security.¹³⁹ Thus, people living in less-developed areas and those living on the lowest incomes have been assisted and have become the groups targeted by the policy.¹⁴⁰

The objective of the Third National Agricultural Policy (the NAP 3) is “the maximization of income”. This has been implemented with the concern that natural resources need to be conserved and utilized on a sustainable basis; this has been mentioned specifically in its objectives. The policy thrusts of the NAP 3 are among others meeting national food requirements, enhancing competitiveness and profitability in agriculture and forestry and also enhancing the integrated development of the food and industrial crop sub-sectors.¹⁴¹

The NAP 3 also focuses on the integration of the agricultural and forestry sectors because, in that particular period, rapid development, especially for agricultural

¹³⁸ See note 93.

¹³⁹ Arshad Ayub, “National Agricultural Policy and its Implication on Forest Development in the Country”, *The Malaysian Forester* 42(4): 348-353, 1979. See [Laporan_Khas&pg=1k_01.htm&arc=hive>](#).

¹⁴⁰ *Ibid.*

¹⁴¹ Peninsular Malaysia: Ministry of Agriculture, Third National Agricultural Policy (1998-2010) Executive Summary, 6. See also note 93.

purposes, was affecting the management of forest in Peninsular Malaysia and a large area of the best PFE has been excised to meet the demand.¹⁴² The ecological balance has been disturbed by large-scale forest clearing and burning for agricultural purposes, and the forest's hydrological function has been affected, also causing soil erosion and environmental damage. It is also believed that the transition from forest to agricultural land use has disturbed the ecological system in the sense that the PFE excised for agricultural purposes has not been utilized to the fullest because of the migration of the rural population to the towns in search of more attractive jobs in the non-farm sectors.¹⁴³

Apart from environmental issues, the financial crisis at that particular time also affected the stability and security of the country's food supply. It was reported that the total value of food imports increased from RM3.5 billion in 1985 to RM7.7 billion in 1995 and RM10 billion in 1997; this imbalance led to an increase in food prices.¹⁴⁴

Thus, close cooperation between related government agricultural and forest agencies is vital for determining the future prospects and potentials of both sectors. The NAP3 also stressed the agroforestry strategy which aimed to produce mutual benefits for both sectors¹⁴⁵ even though facing with the issue of scarce land availability. Hence, land outside the Permanent Forest Estates is utilized for this purpose. After all, in terms of benefiting forestry development, the strategy of poverty eradication under the NAP should be upheld to reduce the excision of forested land.¹⁴⁶

¹⁴² *Id* at 350.

¹⁴³ *Ibid.*

¹⁴⁴ See note 141 at 3-4.

¹⁴⁵ *Id* at 8.

¹⁴⁶ See note 139.

4.4.6 The National Policy on Biological Diversity¹⁴⁷

The official declaration of the National Policy on Biological Diversity (the NPBD) was proclaimed in Kuala Lumpur by the Ministry of Science, Environment and Technology, Malaysia, on 16 April 1998.¹⁴⁸ Responding to the CBD, Malaysia has taken steps to devise its own policy on biodiversity which is concerned with conservation and sustainable management of biological diversity all over Malaysia and also taking into account the precautionary approach derived from principle 15 of the Rio Declaration.¹⁴⁹

To ensuring the conservation of Malaysia's biological diversity and its sustainability, the NPBD has outlined 15 strategies and 85 action plans for all state government in Malaysia to observe.¹⁵⁰ The NPBD highlights that conservation and sustainable management should be for the purpose of developing the socio-economic wellbeing of the nation.¹⁵¹ The biological diversity issue in Peninsular Malaysia will involve a number of agencies because water, land and forest are under the jurisdictions of different agencies under the state governments' control. This issue has been discussed in chapter three of the thesis.

In order to resolve some of the biodiversity issues, the Biodiversity Council was established in 2001 and is chaired by the Prime Minister; it comprises 10 federal Ministers and 13 states' Chief Ministers.¹⁵² For the purpose of monitoring progress,

¹⁴⁷ See note 94.

¹⁴⁸ *Ibid.*

¹⁴⁹ *Id* at 2. See also Yong Hoi Sen, ed., *Biodiversity and National Development: Achievements, Opportunities and Challenges*, (Kuala Lumpur: Akademi Sains Malaysia, 2009), 14.

¹⁵⁰ Ministry of Natural Resources and Environment, *Malaysia National Biological Biodiversity Policy*, 27 Nov. 2013, <www.cbd.int/doc/meetings/nbsap/nbsapcbw-seasi-01/other/nbsapcbw-seasi-01-my-en.pdf>. The strategies are; Strategy 1 – Improve the scientific knowledge base, Strategy II – Enhance sustainable utilization of the components of biological diversity, Strategy III – Develop a center of excellence in industrial research in tropical biological diversity, Strategy IV – Strengthen the institutional framework for biological diversity management, Strategy V - Strengthen and integrate conservation programme, Strategy VI – Integrate biological diversity consideration into sectoral planning strategy, Strategy VIII - Enhance skill, capacities and competence, Strategy – Encourage private sector participation, Strategy VIII -

¹⁵¹ *Id* at 1.

¹⁵² Malaysia, Ministry of Natural Resources and Environment, *National Biological Biodiversity Policy*, PowerPoint slides, 3 Aug. 2012 <<http://www.cbd.int/doc/meetings/nbsap/nbsapcbw-seasi-01/other/nbsapcbw-seasi-01-my-en.pdf>>.

similar Councils were established in all states in Malaysia.¹⁵³ Thus, the integration of federal and state governments in this regard is essential to ensure the survival of the ecosystem, species and genetic diversity.¹⁵⁴ Among the issues addressed by the Council were the National Mangroves Replanting Programme, Forest Replanting Programme, Project of the National Biodiversity Inventory Project, the establishment of the Rainforest Tropical Centre at FRIM and the establishment of the Natural History Museum (to consolidate sectoral initiatives).¹⁵⁵ Thus, directional research and development in this area should be encouraged as the impacts on biodiversity, unlike other matters, are difficult to measure, although they can still be monitored. Hence, the government should pursue a long-term national strategy to ensure biodiversity sustainability in Malaysia even though facing with scarce data.¹⁵⁶

4.4.7 The National Policy on the Environment¹⁵⁷

To uphold the three pillars of sustainable development, *inter alia* economic development, social development and environmental protection, the National Policy on the Environment (the NPE) was formulated on 2 October 2002.¹⁵⁸ The NPE aims at implementing the policy without compromising any of the three pillars. Thus, the NPE would act as a guideline for the federal and state governments, the industrial sectors, the public and other related stakeholders in ensuring a safe and clean environment.¹⁵⁹ The NPE also complements other existing national policies such as forestry and industrial

¹⁵³ *Ibid.*

¹⁵⁴ A. Latiff, *The Current Status of Biodiversity in Malaysia*, 3 Aug. 2012, PowerPoint slides <http://www.ukm.my/myc/pdf/workshop/DAY%20ONE_SESSION1/Prof%20Latiff.pdf>.

¹⁵⁵ See note 152.

¹⁵⁶ See note 154.

¹⁵⁷ See note 95.

¹⁵⁸ Malaysia, Ministry of Science, Technology and the Environment, *Dasar Alam Sekitar Negara/National Policy on the Environment*, 2002, 19.7.2012 <http://www.doe.gov.my/portal/wp-content/uploads/2010/07/dasar_alam_sekitar_negara.pdf>.

¹⁵⁹ *Id* at foreword.

policies. The policy also acknowledges international and global Conventions on sustainable development.¹⁶⁰

The key areas of Malaysia's Green Strategies have been set up in the NPE for the purpose of achieving integration in decision-making among all stakeholders of any form of development in Malaysia.¹⁶¹ This is intended to boost the NPE's aim of achieving long-term economic growth and human development as well as to enhance the success of environmental protection.¹⁶² The key areas of Malaysia's Green Strategies are as follows;¹⁶³

- (i) Education and Awareness
- (ii) Effective management of natural resources and the environment
- (iii) Integrated development planning and implementation
- (iv) Prevention and control of pollution and environmental degradation
- (v) Strengthening administrative and institutional mechanisms
- (vi) Proactive approach to regional and global environment issues and
- (vii) Formulation and implementation of Action Plans

All the above key areas are seen as sufficiently comprehensive to cover all aspects of the aforementioned three pillars of sustainable development. Thus, greater efforts by those related government agencies and stakeholders are vital to achieve an optimal result.

4.4.8 The Malaysia Plan

The current Malaysia Plan (MP) is the Tenth Malaysia Plan (2011-2015) which was presented by the Prime Minister of Malaysia, Datuk Seri Najib Tun Razak, to the House of Representatives on 10 June 2010. The first MP was tabled in Parliament in 1965 and it has been revised and renewed at five-year intervals ever since.

¹⁶⁰ *Id* at 6.

¹⁶¹ *Ibid.*

¹⁶² *Ibid.*

¹⁶³ See note 158 at 7.

For the purpose of forest conservation-related matters, the researcher has examined and selected the most relevant MPs that depict the government's efforts at forest conservation in outlining and planning the states' development. Before that, a brief introduction to previous MPs is appropriate in order to observe how government planning has prioritized the forest.

In the First MP (1966-1970), the government emphasized economic and social development and progress¹⁶⁴ in order to build an independent nation; hence, environmental concerns were not a priority in this particular plan. In the Second MP (1971-1975), it can be seen that forest was placed under Chapter IX - Agriculture, Forestry and Fishing. In that particular era there was a major expansion and clearance of forested land in order to establish rubber, oil palm and kernel estates. However, the government in that particular period made an effort to establish a Forest Research Laboratory in Kepong and a Forest Institution for the purpose of forest matters and concerns.¹⁶⁵ The Third Malaysia Plan (1976-1980) was a continuation of the previous plan where agriculture continued to play an important role in the economy and forestry was still placed under the same Chapter of the previous plan.¹⁶⁶

In the Fourth MP (1981-1985), forestry was placed under Chapter XV - Agriculture, Livestock, Fisheries and Forestry.¹⁶⁷ It seems that the government started to show more concern for forestry aspects in the fifth MP (1986-1990); this was a continuation of the previous MP and it attempted to redress socio-economic imbalances and eradicate

¹⁶⁴ Official Portal of Economic Planning Unit Prime Minister's Department Malaysia, *First Malaysia Plan, 1966-1970*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/first>>. See also <<http://pmr.penerangan.gov.my>>.

¹⁶⁵ Official Portal of Economic Planning Unit Prime Minister's Department Malaysia, *Second Malaysia Plan, 1971-1975*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/second>>

¹⁶⁶ Third Malaysia Plan, 1976-1980 (Government Press, Kuala Lumpur, 1976)

¹⁶⁷ Official Portal of Economic Planning Unit Prime Minister's Department Malaysia, *Fourth Malaysia Plan, 1981-1985*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/fourth>>

poverty.¹⁶⁸ In the Sixth MP (1991-1995) forest was placed under the environment section of the plan and was no longer included among commodity resources.¹⁶⁹ The government's interest in conserving forest was seen in the next plan in which the National Biodiversity Policy was launched in April 1998. In this Seventh plan (1996-2000), forest was placed under Chapter 19 in the Environment and Sustainable Resource Management section.¹⁷⁰ In the Eighth MP (2001-2005), forest matters were placed under the same Chapter as the previous plan. This plan focused on the development and progress of the country towards fully-developed nation status by the year 2020.¹⁷¹ The Ninth MP (2006-2010) started to emphasize preventive measures to reduce pollution by introducing environmental planning, i.e. Environmental Impact Assessment (EIA) and also enhancement of Research and Development (R&D). With regard to forestry the government made several efforts to upgrade the status of forest conservation.¹⁷² The Tenth Malaysia Plan (2011-2015) focuses on economic stability and social justice, with funding being allocated to physical development and non-physical development on the basis of a 60/40 ratio. In this particular plan, forest has been placed under Chapter 6 – Building an Environment that Enhances Quality Of Life; the issue on conserving forests was underlined under subchapter 6: Valuing the Nation's Environmental Endowments.¹⁷³

Thus, a number of the above-mentioned MPs have signified the importance of forest from an environmental perspective. The Fourth, Fifth, Ninth and Tenth MPs have highlighted the government's emphasis on dealing with the issue of forest conservation

¹⁶⁸ Fifth Malaysian Plan, 1986-1990, (National Printing Department: Kuala Lumpur, 1986), 279.

¹⁶⁹ Official Portal of Economic Planning Unit Prime Minister's Department Malaysia, *Sixth Malaysia Plan, 1990-1995*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/sixth>>

¹⁷⁰ Official Portal of Economic Planning Unit Prime Minister's Department Malaysia, *Seventh Malaysia Plan, 1996-2000*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/seventhmalaysiaplan>>

¹⁷¹ Official Portal of Economic Planning Unit Prime Minister's Department Malaysia, *Eighth Malaysia Plan, 2001-2005*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/eightmalaysiaplan>>

¹⁷² Malaysia, The Economic Planning Unit, Prime Minister's Department, *The Ninth Malaysia Plan, 2006-2010*, (Putrajaya: The Economic Planning Unit, Prime Minister's Department: Putrajaya, 2006) 453.

¹⁷³ Official Portal of Economic Planning Unit Prime Minister's Department Malaysia, *The Tenth Malaysia Plan, (10th MP)*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/rmkeseperuluh>>

in Malaysia as compared to the other Malaysian Plans which mentioned the issue of the environment without specifically referring to forest conservation issues.

The endorsement of the National Forestry Policy during the Fourth Malaysia Plan was a significant indication that the government was becoming serious about forest conservation. Therefore all states in Peninsular Malaysia have accepted and adopted the Policy in their practice for the purpose of standardizing forest matters. Under this new policy, the Permanent Forest Estate (PFE) was introduced and this reflects the government's intention to reserve some parts of the forest for the purpose of conservation. Besides the introduction of a new approach to forest conservation, several programmes for the forest were also identified, i.e. Forest Regeneration Programme, Forest Industries Development, etc.¹⁷⁴

According to Chapter IX of the Fifth MP, under the theme of Environment, the government, in its lengthy reports of progress and prospects, had identified issues and mechanisms to protect and conserve the environment. In the past, the government's priority was to achieve a balance between development and environment. Thus, in this period of the plan, the government continued to bring a greater balance to the exploitation of natural resources by implementing and enforcing relevant environmentally-related legislation, at the same time developing strategies to deal with future problems. Forest was placed under this Chapter IX where, in the progress part, it was reported that there were 776,400 ha of National Parks and Wildlife Reserve in Peninsular Malaysia.¹⁷⁵ These natural forest habitats, besides being an important space

¹⁷⁴ See note 167 at 271.

¹⁷⁵ See note 168 at 287.

and home for wild flora and fauna, are also crucial for the protection of watersheds and the maintenance of the hydrological cycle.¹⁷⁶

The Ninth Malaysia Plan had placed an emphasis on preventive measures to mitigate and minimize pollution.¹⁷⁷ The application of relevant Environmental Planning Tools such as the Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), environmental auditing, etc has been highlighted in order to minimize the undesirable impact on the environment. Besides the application of related environmental tools, Research and Development with regard to forest will be strengthened.¹⁷⁸ It also stressed the development of the Environmental Sensitive Areas (ESA) in meeting the needs of sustainable development.¹⁷⁹

Forest is placed under the Natural Resource Management part alongside other natural resources such as land, water, biodiversity, minerals, and marine and coastal areas.¹⁸⁰ This particular part highlights the establishment of new three protected areas, Taman Negara DiRaja Belum (the Royal Belum), Taman Negara Pulau Pinang and Taman Warisan Selangor. The number of protected areas has now increased from 37 to 40.¹⁸¹ Besides the establishment of Taman Negara, the establishment of forest plantations has also increased to 75,800 ha.¹⁸²

With regard to the efforts to conserve the forest in 2005, 67 companies had been certified by the Malaysian Criteria and Indicators 2001 (MC&I).¹⁸³ This shows that private companies have also started to contribute to the effort besides the government

¹⁷⁶ *Ibid.*

¹⁷⁷ See note 172 at 463.

¹⁷⁸ *Id* at 453.

¹⁷⁹ *Id.* at 456.

¹⁸⁰ *Id* 456-458.

¹⁸¹ *Id.* at 457.

¹⁸² *Ibid.*

¹⁸³ *Ibid.*

and that forests are now beginning to be recognized as the world's heritage which needs to be sustained. Among other efforts also scheduled in the Ninth MP to help benefit the forest is the conservation and rehabilitation of mangrove forest; this plan was the outcome of the tsunami incidents of 2004.¹⁸⁴ Thus, from the above facts it can be said that, through the Ninth MP, the government has made serious efforts to protect the forest besides other crucial issues in Malaysia.

The Tenth MP has shown concern over the issue of deforestation which was found to be responsible for approximately 20% of total global emissions of greenhouse gases (GHG).¹⁸⁵ Under this plan, the federal government has to ensure that forests in Malaysia are able to act as carbon sinks. The government has therefore encouraged all states to gazette their forests as protected areas, especially water catchment areas, and also to cooperate with the Non-Governmental Organisations in planting more trees to increase the amount of green space in the country. Local communities were also to be involved in order to upgrade their income¹⁸⁶ and because local communities are the people who are closest to the forest, especially "Orang Asli".

4.4.9 The National Physical Plan

The National Physical Plan (the NPP) outlines strategic policies for physical development and conservation for the whole of Peninsular Malaysia. Every five years the Plan will be reviewed until it achieves the target scheduled for the year 2020. The NPP is interpreted from the Town and Country Planning Act 1976 (Act 172) and it focuses more on the development of conurbations.¹⁸⁷

¹⁸⁴ *Ibid.*

¹⁸⁵ See note 173 at 305. See also Sim Leoi Leoi, "Malaysia a Net 'Carbon Sink'", *The Star*, 14 Dec. 2007.

¹⁸⁶ *Id.* at 308.

¹⁸⁷ Official Website of Townplan Peninsular Malaysia, Federal Department of Town and Country Planning Peninsular Malaysia, Ministry of Housing and Local Government, *Review Central Forest Spine (CFS1 and CFS2)-Masterplan for linkages*, 22 Feb. 2011, 11 May 2011 <http://www.townplan.gov.my/new_web/english/service_regional_plan_forest_spine.php>.

The Review of the NPP, *inter alia* NPP-2, was approved by the Cabinet on 11th August 2010 and was later endorsed by the National Physical Plan Council on 13th August 2010. The NPP-2 aims to realize “the establishment of an efficient, equitable and sustainable national spatial framework to guide the overall development of the country towards achieving a developed and high-income nation status by 2020.”¹⁸⁸ In achieving this aim, it will take into account the government’s initiatives, i.e. The National Key Result Areas (NKRA), the Economy Transformation Programme and the Tenth Malaysia Plan.¹⁸⁹

In regard to forest conservation in Peninsular Malaysia, the NPP-2 in its Theme 6 emphasises “conserving natural resources, biodiversity and the environment.”¹⁹⁰ It focuses on several types of environmental protection for forest including creating Protected Areas consisting of Watershed Areas, constructing a ranking system for Environmentally Sensitive Areas (ESA), conducting a study on the Central Forest Spine and gazetted watershed areas to prevent future encroachment.¹⁹¹

To ensure the successful of forest environmental planning, several related agencies were selected to implement the relevant policies of the NPP. For instance, the Department of Forestry, Department of Environment, Wildlife and National Parks Department, Local Authorities, State Authorities, Regional Development Agencies (Northern Corridor Implementation Authority (NCIA), East Coast Economic Region Development Council (ECERDC) & Iskandar Regional Development Authority (IRDA)) have been assigned to determine ESA and buffer zones in the Structure Plan and Local Plan as it is clearly

¹⁸⁸ *Ibid.* See *Rancangan Fizikal Negara ke-2*, 11 May 2011

<<http://www.townplan.gov.my/devo/download/RFN/Bab%202%20Goals,%20Objectives%20and%20Principals.pdf>>.

¹⁸⁹ *Ibid.*

¹⁹⁰ *Ibid.* See Chapter 5-Policies.

¹⁹¹ *Ibid.*

stated in the policy that “ESA shall be integrated in the planning and management of land use and natural resources”¹⁹²

The NPP interprets ‘Central Forest Spine’ (CFS) as the backbone of the linkage of Environmentally Sensitive Areas in Peninsular Malaysia which covers four groups of forest: i) Titiwangsa Main Range - Star Range - Nakawan Range; ii) East Range - National Park; iii) South-East Pahang, Chini and Bera marshy areas; and iv) Endau-Rompin National Park - Kluang Wildlife Reserve.

According to a study of the CFS, the Master Plan for Linkages comprises two areas: CFS 1 and CFS 2. The two CFSs cover northern and southern Peninsular Malaysia including eight states: Pahang, Johor, Negeri Sembilan, Selangor, Perak, Kedah, Kelantan and Terengganu. In this study, a total of thirty-two linkages have been identified, with fifteen established as Primary Linkages and seventeen recognised as Secondary Linkages; the combination of Linkages¹⁹³ will form an uninterrupted CFS. The linkages have been gazetted in the NPP.¹⁹⁴

As stated under the policy of NPP 23, the Department of Forestry, Department of Environment, Wildlife Department and Act 172 are the principal implementing agencies for identifying CFS in the Development Plans and drawing up appropriate management plans for the CFS. These particular agencies are responsible for ensuring the establishment of the CFS as the backbone of the ESA.¹⁹⁵

¹⁹² *Ibid.* See NPP 2.

¹⁹³ *Ibid.* See Appendix IV for list of CFS1 and CFS2.

¹⁹⁴ *Ibid.*

¹⁹⁵ *Ibid.* See NPP-2- Chapter 6 Implementation Mechanism at 19.

4.4.10 Climate Change Mitigation Solution - (REDD+)

The REDD+ is an international environmental programme focusing on forest conservation, sustainable management of forest and enhancement of forest carbon stocks. This mechanism is a continuance of Reducing Emissions from Deforestation and Forest Degradation (REDD) that offers to developing countries to undertake carbon offset in ensuring sustainable development.¹⁹⁶ There are several initiatives under the REDD+ for instances UN-REDD Programme whilst Forest Carbon Partnership Facility (FCPF) and also Forest Investment Programme (FIP) are under the World Bank programme.¹⁹⁷

It is to be noted that, Malaysia is only expressing interest to participate in REDD programmes hence, Malaysia is not part of the UN-REDD.¹⁹⁸ In 2007, Malaysia submitted a report to the Subsidiary Body for Scientific and Technological Advice (SBSTA) of the UNFCCC Malaysia stating the view that developing countries with current low rates of deforestation should be also given favourable consideration.¹⁹⁹ To show Malaysia's serious commitment to the programme, the Prime Minister at COP15 in Copenhagen has made a pledge to reduce emission intensity of GDP by up to 40% compared to 2005 levels by 2020.²⁰⁰

Among the planned projects under the REDD+ are Project of the Development of Forest Carbon Monitoring Methodologies for REDD+ in Malaysia (2011-2013), Project Sub-components of Remote Sensing, Biomass Inventory and Socio-Economic, Project of Forest Cover and Carbon Mapping in the Greater Mekong Sub-Region and Malaysia (2011-2013), Project of Aboveground Biomass and Carbon Stock Mapping and

¹⁹⁶ UN-REDD Programme, About REDD+, 17 Nov. 2013 <www.un-redd.org/AboutREDD/tabid/102614/Default.aspx>.

¹⁹⁷ *Ibid.*

¹⁹⁸ Hamdan Omar, An Overview of REDD+ Activities in Malaysia, 5th GEOSS-AP Symposium 2-4 April 2012, Miraikan, Tokyo, Japan, 28 Dec. 2013 <www.restec.or.jp/geoss_ap5/pdf_day2/wg3/am2/omar.pdf>.

¹⁹⁹ *Ibid.*

²⁰⁰ *Ibid.*

Changes Monitoring in the Forest of Peninsular Malaysia Using L-Band ALOS Palsar and JERS-1 (April 2012-March 2014) and Project of Reducing Forest Degradation and Emissions Through Sustainable Forest Management (SFM) in Peninsular Malaysia (2012-2015).²⁰¹ These projects are guided by the National Steering Committee on REDD+ specifically on methodology and technical issues. These REDD+ activities will be implemented by the SFDs guided by the National REDD+ Strategy and State's Development Plan and Policies and to be reported at national level.²⁰²

Thus, all the above planned activities or projects should be applauded as it shows real and serious efforts from the authority to reduce the emission of carbon and at the same time upholding the approach of sustainable forest management.

4.4.11 The Wildlife Conservation Act 2010²⁰³

The Wildlife Conservation Act 2010 (the Act) which was passed by the Parliament came into force since 28th December 2010. The Act applies to Peninsular Malaysia and the Federal Territory of Labuan²⁰⁴ and was passed to replace the Protection of Wildlife Act 1972 (Act 76). Forest is habitat for wildlife thus, forms part and integral of it and is directly linked to forest conservation from various perspectives including that of law and administration. The Act contained provisions on wildlife reserves and wildlife sanctuaries²⁰⁵ which are directly relevant to forest conservation therefore; it must be read with the National Forestry Act.

²⁰¹ *Ibid.*

²⁰² *Ibid.*

²⁰³ Laws of Malaysia The Wildlife Conservation Act 2010 (Act 716).

²⁰⁴ Bernama Media, *Implementation of the Wildlife Conservation Act 2010 (Act 716) Wildlife Conservation (Operation of Zoo) Regulations 2012*, 3 Jan. 2014, <my.news.yahoo.com/implementation-wildlife-conservation-act-2010-act-716-wildlife-023132527.html>.

²⁰⁵ Part V (Section 47, 48 and 49) of Act 716.

The Department of Wildlife and National Parks (DWNP) has designed conservation strategies under the Wildlife Species Action Plan to provide long-term protection for the species concerned.²⁰⁶ It is also submitted that there are eight wildlife corridors identified in Peninsular Malaysia that is under the Central Forest Spine (CFS) established under the NPP²⁰⁷. There are twenty five Wildlife Reserves protected under the Act which of these, there are only six Wildlife Reserves fully protected under the DWNP.²⁰⁸ Thus, the Act does provide for wildlife reserves and wildlife sanctuaries that ultimately protecting area of forest. Above all, those related agencies to the protected area should cooperate in ensuring the wildlife habitat is secured and protected from being impaired.

4.5 Conclusion

From the above discussion, it is apparent that despite numerous forest programmes and strategies provided under the various National Plans, the Environmental Law principle has not been reflected in the forest policy and law (the NFP and the NFA). The aforementioned National Plans load with strategies and planning among others it promotes sustainable basis of natural resources for the purpose of maximisation of income and also eradicating poverty (the NAP 3); agroforestry is also introduced to reduce the excision of forest land (the NAP 3); a Biodiversity Council was established to integrate federal and state government towards developing socio-economic wellbeing of the nation (the NPBD); physical development and conservation for the whole

²⁰⁶ Example of the Action and Management Plan are the National Tiger Conservation Action Plan (NTCAP), the Elephant Management Plan, the Tapir Management. See Mohd Nawayai Yasak et al., Status of Wildlife Conservation in Peninsular Malaysia, *National Biodiversity Seminar (MyBioD 2012), 18-19 December 2012*, 3 Jan. 2014 <www.nre.gov.my/Malay/Biodiversiti/Documents/Status%20of%20Wildlife%20Conservation_DWNP.pdf>.

²⁰⁷ *Ibid.* Forest complexes involved are 1) Kedah-Singgora Forest Complex, 2) Bintang-Hijau Forest Complex, 3) Main Range Forest Complex, 4) Greater Taman Negara Forest Complex, 5) Benom Forest Complex, 6) Chini-Bera Forest Complex, 7) South East Pahang Peat Swamp Forest, 8) Endau Rompin-Sedili Forest Complex. See also para 4.4.9.

²⁰⁸ As stated in DWNP data; The Protected Area (PA) that is fully protected under the DWNP 1) Perlis (RHL Wang Pinang), 2) Perak (RHL Sungkai, RHL Batu Gajah), 3) Selangor (RHL Sungai Dusun), 4) Pahang (RHL Pulau Tioman, RHL Krau). Total areas of Wildlife Reserves are 78,720 ha of. Overlapping PA with other agencies 1) Johor (RHL Endau Kota Tinggi), (RHL Segamat), (RHL Endau Kluang), (RHL Endau Kluang/Taman Negara Endau-Rompin, RHL Four Islands), 2) Negeri Sembilan (RHL Port Dickson Islands, RHL Tanjung Tuan) 3) Melaka (Rezab Sembilan Pulau), 4) Pahang (RHL Pahang Tua) 5) Perak (RHL Chior), 6) Selangor (RHL Kelab Golf Diraja Selangor, RHL Bukit Nenas, RHL Klang Gate, RHL Bukit Kutu, RHL Kuala Selangor Hill, RHL Bukit Sungai Puteh, Selangor, RHL Templer Park, RHL Bukit Fraser, Selangor 7) Kuala Lumpur (RHL Bukit Sungai Puteh, Kuala Lumpur). Total areas of Wildlife Reserves are 167,818 ha.

Peninsular Malaysia (the NPP). Nevertheless, all these plans are not legally binding in its effect. Thus, it is vital to integrate the programmes and strategies in these National Plans so that forests in Peninsular Malaysia would not encounter any difficulty in ensuring its sustainability.

Despite difficulties in dealing with forest issues in Peninsular Malaysia, Malaysia's approach to complying with the international arrangements has made the tangle much easier to unravel. For instance, the recent tsunami tragedy has proved the significant role played by mangroves in reducing wave impacts along coastal areas in some northern parts of Peninsular Malaysia.²⁰⁹ The government of Malaysia has also assigned a special task force to study the extent of mangrove forest along the coastal areas of Peninsular Malaysia, especially the area most likely to experience a tsunami.²¹⁰ Thus, the coastal areas with mangroves, especially the RAMSAR sites in Peninsular Malaysia, are now subject to a serious monitoring programme. Furthermore, additional mangrove plantation sites will soon benefit Malaysia in many aspects of environmental protection as well as enhancing biodiversity and preserving the organisms living therein. Thus, the policy of planting mangroves along coastal areas can be considered as adapting to the precautionary principle approach in that the planting is carried out to prevent the possibility of severe damage by a tsunami.

Referring to the role of CBD in Peninsular Malaysia's approach to protecting and conserving forest, it can be perceived that the clear guidelines have been underlined by the CBD for FDPM to plan for flexible techniques and approaches to protection and preservation of forest. Based on the researcher's observation, FDPM has paid attention

²⁰⁹ Shamsudin Ibrahim and Azian Mohti, "Post Tsunami events in Peninsular Malaysia: intensification of R&D in mangrove establishment for coastal protection", *Proceedings of the Regional Technical Workshop on "Coastal Protection in the Aftermath Indian Ocean Tsunami: What role for forests and trees?" at Khao Lak, Thailand, 28-31 August 2006*, Eds. Braatz, Susan *et al*, (Bangkok: FAO, 2007), 180.

²¹⁰ *Ibid.*

to preserving forests in Peninsular Malaysia by categorizing specific forest areas to be maintained and sustained. The categorization of forest has been discussed in the first part of this thesis. However, the ecosystem approach recognised by the CBD is not found in SFD's practices in conserving forest, as an ecosystem approach requires an established network of forest authorities. This is not the situation in Peninsular Malaysia where there are various departments in charge of different subjects, and the departments are also creating different laws affecting subjects living within the forest, thus contributing to the issue of conflict of interest. The protected area approach under CBD, however, is practised by the SFD in Peninsular Malaysia where a number of protected areas have been gazetted for the purpose of preservation and protection of unique species of flora and fauna. Nonetheless, in this particular aspect the Orang Asli residing in forest areas have been greatly affected by the system. This issue should be pondered by those in authority.

It is known that Malaysia is home to at least 12,000 flowering plants, 2,650 tree species, 890 tree species of timber size, 408 marketable timber species, 400 species of palms, 145 species of ginger, 70 species of bamboo, 600 species of fern and 700 species of fungus.²¹¹ Mohd Yunus noted in his article that Malaysia has far more plant species than the temperate countries, i.e. European countries, USA and Canada. Thus it is a great challenge to Malaysia to manage its forests and species of plants according to the required level. In view of its climatic conditions, Malaysia indeed needs to have its own approaches to managing and conserving its forests and species of plants, as the approaches applied in temperate countries are not necessary suitable for Malaysian conditions and interests.²¹² In the 54th CITES Standing Committee meeting in 2006,

²¹¹ Mohd Yunus, Z et al., *International Forest-Related Agreements and Sustainable Forest Management With Reference To Peninsular Malaysia*, Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 20-21 Mar. 2007, The National Conference on the Management and Conservation of Forest Biodiversity in Malaysia, CD ROM, (Putrajaya: Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 2007).

²¹² *Ibid.*

Malaysian timber-related issues were raised. The types of timber were Ramin (*Gonystylus spp*) and Gaharu (*Aquilaria spp*), and it was noted that Malaysia was not following the requirements of the Convention for the harvesting of timber in peat swamp forest. Hence, the secretariat proposed that specimens from Malaysia be suspended until Malaysia notified the secretariat of the Convention about these issues.²¹³ This shows Malaysia's absolute passion and commitment to preserving its species of timber.

With regard to the UNFF, there are a total of 270 Proposal of Actions, 186 of which are relevant to Malaysia, and 16 elements have been categorized and grouped.²¹⁴ With reference to those sixteen elements which are considered relevant to Malaysia's situation, it seems that all factors have been taken into consideration in ensuring the sustainability and continuity of forests in Malaysia. Therefore, it will involve the outlining of planning and strategies in managing and administering forests for the benefit of all. Hence, it can be seen that this huge function is being carried out not only by the guardians of the forest (forest conservators) but also by the public at large. Producer countries, especially developing countries, will require various kinds of assistance from the developed countries, i.e. financial, human resources, technology, infrastructure etc, in order to realize and implement the international criteria and actions.²¹⁵ Thus, should the developed countries show a willingness to provide assistance to the producer countries to achieve the aim, the practice will be applauded.

²¹³ *Ibid.*

²¹⁴ See note 42. The sixteen elements are: 1. Formulation and implementation of national forest programme (NFP); 2. Promoting public participation; 3. Combating deforestation and forest degradation; 4. Traditional forest-related knowledge; 5. Forest-related scientific knowledge; 6. Forest health and productivity; 7. Criteria and indicators of sustainable forest management; 8. Economic, social and cultural aspects of forests; 9. Forest conservation and protection of unique types of forests and fragile ecosystems; 10. Monitoring, assessment and reporting, and concepts, terminology and definitions; 11. Rehabilitation and conservation strategies for countries with low forest cover; 12. Rehabilitation and restoration of degraded lands, and the promotion of natural and planted forests; 13. Maintaining forest cover to meet present and future needs; 14. Financial resources; 15. International trade and sustainable forest management; and 16. International cooperation in capacity building and access to, and transfer of, environmentally sound technologies to support sustainable forest management.

²¹⁵ *Ibid.*

Pertaining to the ITTA, according to Mohd Yunus in his article, Malaysian forest management practices have already been influenced by what was agreed in Rio. This has been proved by the establishment of the country's own forest scheme which has been accredited by several developed countries and also by international and regional organisations.²¹⁶ Accordingly, the Forest Management Unit (FMU) was recognized and there are currently eight FMUs in Peninsular Malaysia: Johor, Kedah, Kelantan, Negeri Sembilan, Pahang, Perak, Selangor and Terengganu. These cover 4.67 million ha of the Permanent Reserve Forests in Peninsular Malaysia. For the states to be recognized as FMUs, they must be assessed by an independent third party from the Malaysian Timber Certification Council (MTCC). Nevertheless, this practice has contributed to increased costs in terms of manpower and time²¹⁷ as it requires particular improvement and enhancement in dealing with the assessment scheme.

Thus, there are indeed major forest issues on which international and, especially, Malaysian legal instruments must focus in order to prevent our forest from being diminished.²¹⁸ The REDD+ should be seen as an environmental control mechanism that attempt to ease the tension between preserving the forest in income issue.

With respect to forest legal matters, the guardians of Peninsular Malaysia's forest must be proactive in every suggestion and recommendation put forward by the international forest bodies and agreements, especially in ensuring that the forest legal mechanisms are sufficiently conclusive to carry out the function of protecting and efficiently managing Peninsular Malaysia's forests. Amendments to and enhancement of forest law

²¹⁶ *Ibid.* An example of the scheme is Malaysian Criteria and Indicators (MC&I) which consist of 64 indicators and 200 activities under the 7 criteria of ITTO at the national level for reporting progress towards sustainable forest management. 56 indicators and 171 activities were formulated for monitoring and assessing sustainable forest management practices at the forest management unit level. This scheme was amended after the introduction of the ITTA 2006 giving effect to the interest of forest community.

²¹⁷ *Ibid.*

²¹⁸ See also Hughes, D, et al., *Environmental Law*, 4th ed., (London: Butterwoths LexisNexis, 2002), 63.

and policy of Peninsular Malaysia are crucial and must be instigated as forest losses are becoming an international and major issue around the world and need prompt action.

Besides providing legal measures for conserving forests, the Environmental Principles on forest conservation should be judiciously understood. The forest authority in particular should ensure that the existing forest law and policy conform to related Environmental Principles such as sustainable development, precautionary approach, 'polluter pays' and intergenerational equity. This is significant in the sense that the primary forest agenda should be one of environmental concern rather than merely seeking to ensure a sustainable forest for the purpose of sustaining states' revenues.

Nevertheless, there are still issues relating to international and Malaysian law that needs to be taken into consideration in order to ensure that forests in Peninsular Malaysia are sustained and preserved for many more years. Hence, the aim of identifying and analysing Peninsular Malaysia's forest legal instruments in order to examine whether they are in line with the above-mentioned Environmental Principles is pursued in the next chapter with an analysis of the existing practices of forest conservation of each state in Peninsular Malaysia, highlighting contemporary forest issues.

CHAPTER FIVE: ANALYSIS ON CONSERVATION OF FOREST IN THE STATES OF PENINSULAR MALAYSIA

5.1 Introduction

Discussion in the previous chapters has shown the importance of conservation of forest in Peninsular Malaysia. Concerted efforts, especially by forest stakeholders, are regarded as crucial because forest is a protected substance that needs appropriate management. Besides these efforts, it is also vital to study forest-related legislation in order to discern the government's readiness to acknowledge forest as a precious heritage that needs to be sustained. After discussing all the above-mentioned matters, in this chapter several forest issues are identified and will be established. It is essential to study and discuss these issues for the purpose of understanding the reality of forest conservation issues in Peninsular Malaysia.

This particular chapter is developed according to thematic approach as mentioned in the methodology section. Discussion in this chapter is supported by interviews with the Director and the Assistant Directors of the State Forestry Departments in Peninsular Malaysia (the SFDs). Besides interviewing top forest officers of all SFDs in Peninsular Malaysia, the researcher also interviewed dedicated personnel from the Non-Governmental Organization (NGO). Various data collected from different resources for instances the Forest Research Institution of Malaysia (FRIM) library, the Higher Education Institution Library of Universiti Malaya, Universiti Putra Malaysia, Universiti Islam Antarabangsa Malaysia and Universiti Kebangsaan Malaysia are also referred to.

The researcher also observes that the outcome of the interview process will be valuable as it involved respondents who are forest experts and also those closest to forest hence, it could vindicate the reliability of states' practices on forest conservation in determining the survival of forest in Peninsular Malaysia. This could also justify the significance of forest in Peninsular Malaysia for the benefit of the whole world.

After analyzing the data from the interview it is significant to reiterate the discussion in the previous chapter four on the applicability of Environmental Principles in the law and policy of forest conservation in Peninsular Malaysia. This is to examine whether the applicability of the Environmental Principle in the forest conservation practiced by the SFDs in Peninsular had reflected in the forest policy and law (the NFP and the NFA). This is significant in order to ascertain the extent to which this legal instrument of forest is able to sustain forest in Peninsular Malaysia for more years to come.

5.2 Analysis of conservation of forest in states in Peninsular Malaysia (Selangor, Kelantan, Perlis, Negeri Sembilan/Melaka, Terengganu, Perak, Kedah, Pulau Pinang, Johor)

5.2.1 Analysis of Data and Information by Themes

This particular section intends to elaborate the themes by virtue of primary data gathered from the researcher's fieldwork, i.e. the interviews with the forest conservators of every SFD in Peninsular Malaysia and also the NGO - *Sahabat Alam Malaysia*/Friends of the Earth (SAM). Moreover, other relevant data gathered from library research as aforementioned are also referred to. The themes are constructed based on various forest issues highlighted in the interview session in order to envisage

the practices of the forest conservator in dealing with forest and environmental issues; the objective of the study.

5.2.1.1 Definition of Forest and Its Percentage in Peninsular Malaysia

(a) Definition of Forest

The definition of forest in its scientific aspects and its general concept has been discussed in chapter one of the thesis. Before going on to discuss the above-mentioned theme, it is appropriate to provide a brief explanation of the scenario of forestry in Peninsular Malaysia from its preliminary stage of pre-independence to the current situation in order to gain a better understanding of how forest has been defined from time immemorial. As has been elaborated in the previous chapter, forest was administered by the British colonial officials through the Forestry Department. Since that particular time, portions of forest have been reserved to prevent forest areas from being totally destroyed in the Malay states as a result of the grand opening of new areas for industry and agriculture. This is a glance at the past scenario of forest in Peninsular Malaysia, but the current forest scenario is totally different. During the years after Malaysia achieved its independence until the present day, forest has been administered by locally-trained and skilled forestry personnel. Accordingly, a systematic approach to managing and administering the forest was assured. In 1990, the Forestry Department was governed by the Ministry of Primary Industries; however, since the restructuring of the cabinet in 2004, the Forestry Department has been governed by the Ministry of Natural Resources and Environment and also the Ministry of Plantation Industries and Commodity for wood-based products. This restructuring of the Ministry indicates the shift from a profit-based industry to an environmentally-based agenda on which forest is

now being prioritized for preservation rather than considered one of the country's main industries.¹ Nevertheless, the extent to which the agenda has really shifted is debatable.

From the above-mentioned explanation on the shifting of forest agenda, i.e. from profit-based industry to environmentally-based agenda, it is to be noted that the task of providing a standard definition of forest is quite challenging. Even though the environmental value of forest is indeed being recognized all over the world, standard definitions of forest and its coverage are still vague. This has been discussed in a book published by SAM.² According to the author of the book, in order to determine the state of the forest and its coverage in Peninsular Malaysia, it is important to look at the trend and quality of deforestation. This is vital because there is no specific guideline on definition and limitation of forest coverage. Hence, it would contribute to misjudgement and would also misrepresent the real state of forest in Peninsular Malaysia where 'forest' might be referring to ancient forest and also plantations.³

From the interview sessions conducted with the foresters from ten forestry departments all over Peninsular Malaysia, they unanimously agreed that there was no specific or standard definition of forest applicable in their respective states. However, according to the Director of Johor SFD (Johor SFD) there is no specific definition of forest applicable except that provided by the Food and Agricultural Organization (FAO).⁴ The FAO definition of forest has been adopted by Malaysia in the preparation of the Forest Resource Assessment (FRA) Report, Asia Pacific Outlook Report and the Global

¹ Interview with Director of Forest Management Unit, Forestry Department of Peninsular Malaysia on 18 Feb. 2008. See also Brookfield, H, Lesley Potter and Yvonne Byron, *In Place of the Forest Environmental and Socio-economic Transformation in Borneo and the Eastern Malay Peninsula*, (Kuala Lumpur: United Nations University Press, 1995), 63-64. See also Ray, R.G., *Forestry and Forest Classification in Malaysia*, (Ottawa: Department of Fisheries and Forestry, 1968), 22, 54.

² Sahabat Alam Malaysia, *Malaysian Environment in Crisis*, (Penang, Malaysia: Sahabat Alam Malaysia, 2006) 26-82.

³ *Id.* at 36-37.

⁴ Interview with Director of Johor Forestry Department in Johor Bharu on 22 Apr. 2009.

Outlook Report.⁵ Forest is defined as areas that comply with the following criteria: an area of more than 0.5 hectares; canopy covering more than 10% of the area; minimum tree height at maturity of more than 5 metres; and including natural and plantation forests (rubber wood plantations are forests).⁶

The researcher believes that, were Peninsular Malaysia's foresters to adopt the above-mentioned forest definition, the current figures relating to forest in Peninsular Malaysia in the forestry statistics would not be the same because they would contribute to incrementing the forest's size when forest is defined to also include plantation forests.

During an interview conducted by the researcher with SAM,⁷ the coordinator of SAM expressed his concern with regard to the definition of forest. He argued that, were SAM to assert a definition of forest, the government would produce its own definition of forest. According to him, the government applies the definition of forest as "protected area" as defined under the Article 2 of the Convention on Biological Diversity (CBD), where protected area is defined as 'a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives.'⁸

Furthermore, he also mentioned the term 'protected area' available under the CBD in that this particular matter has been debated internationally pertaining to the application of the term 'protected area' to reserved forest. SAM stated that even the conservation NGOs such as WWF and MNS have tried to define all protected areas in Malaysia as

⁵ Mohd Yunus, et al., "International Forest-Related Agreements and Sustainable Forest Management with Reference to Peninsular Malaysia", *National Conference on the Management and Conservation of Forest Biodiversity in Malaysia*, (Putrajaya, 20-21 Mar. 2007).

⁶ FAO, quoted by Mohd Yunus, et al. See note 5.

⁷ Interview with Coordinator of Sahabat Alam Malaysia (Friends of the Earth, Malaysia) in Penang on 1 Oct. 2007.

⁸ Secretariat of the Convention on Biological Diversity, *Handbook of the Conservation on Biological Diversity*, 2nd Ed. (Secretariat of the Convention on Biological Diversity, Canada, 2003), 5.

reserved forest but SAM believes that the existing term ‘reserved forest’ applied by Malaysia is not identical to the term ‘protected area’ provided under the CBD.⁹

Nevertheless, from SAM’s point of view they would prefer forest in Peninsular Malaysia to be defined as an ‘ecosystem approach’ rather than a ‘protected area’ approach. SAM further asserted that the application of ecosystem approach is wider in coverage as forest should be defined to include any livelihoods and biodiversity within its parameters. Thus, were forests to be defined in such a way, the wildlife corridor could also be taken into consideration. The protected area approach, however, designates compartments or gaps because there is no linkage between forest and livelihoods; moreover, the wildlife aspect is not taken into consideration. SAM contended that the ecosystem approach could be one of the better ways of defining forest in Malaysia.¹⁰

Another issue related to the definition of forest that was raised by SAM’s coordinator is that most of the land areas are bound to different jurisdictions; for example the Town and Country Planning Act (TCPA) is applicable to the status of land.¹¹ Thus, the land is designated either for commercial or housing purposes even though the land area is a reserved forest. This problem is, however, related to the state’s dilemma in determining the status of land: should it designate the land as protected area or development area? Should the state determine the status of land as protected area, it would obviously encounter impediments to developing the land. SAM revealed an example in the situation in Kedah at Ulu Muda and Pedu Dam. These areas should be gazetted as protected areas apparently, but some of the land areas have been converted for the purpose of development. Here, SAM raised a question: “How can we call it forest?”

⁹ See note 7.

¹⁰ *Ibid.*

¹¹ *Ibid.*

Therefore, SAM concluded that attempts to define forest in Malaysia are indeed quite problematic¹² and this has clearly shown gaps and defects in the government definition of forest.

One more flaw in the National Forestry Act (NFA) that has been highlighted by SAM is also related to the definition of forest where the Act gives power to the state to excise the status of gazetted protected area for the purpose of development.¹³ It is further stated in the Act that the state authority has to replace the development land with a similar amount of land as a protected area; however, at the end of the provision it is stated that the act of replacement is only an option. For SAM, the first part of the provision is impressive but the optional part means that the provision is meaningless. This shows that the provision can easily be interpreted by the state in any way it wishes. To illustrate the weakness of the provision, SAM shared their experience of a case of a quarry in Jerai, Kedah. The area has in fact been recognised as a water catchment area in the structure plan; it was supposed that the Forestry Department had taken action to gazette and place the area in the forest category of water catchment area. However, the Forestry Department did not take the initiative to gazette that area as a water catchment area. The government later agreed to develop that area as a quarry area. This case shows that the state government has the power to easily develop any area they wish. Hence SAM, on behalf of the community, has challenged the state government in court in the ground of violation of the structure plan. SAM assumed that the state government did not understand legal procedure; thus, they simply proceeded with the quarry activity and consequently violated the law. This particular case began in 1997 when the state government of Kedah assented to the structure plan for the district of Yan from 1995-

¹² *Ibid.*

¹³ *Ibid.*

2020 and the same was gazetted on 1 January 1998. In 2010 reported case¹⁴, however, the plaintiffs' rights in maintaining the forest reserve area were upheld against the quarry operation which has adversely affected their lives. Thus, after several stages of court procedure, the learned judge in this case held that the defendant must be estopped by the principles of *res judicata* from once again raising the issue of *locus standi* in this matter. This shows that public rights are still protected under the law, in this particular case the Town and Country Planning Act. The judge clearly mentioned the following: 'Clearly, then, they come within the class of persons the structure plan seeks to protect, those who have homes, orchards or padi fields within the area, those whose source of water are the rivers running in the area for which the forest represents an important water catchment area.'

Besides that, the importance of gazettelement of potential forest area as water catchment areas by the Forestry Department has also been highlighted by the learned judge. The judge further stresses the urgency of forest gazettelement by the Forestry Department so that any harvesting and development activities which could damage nature's stability and affect clean water supply can be prohibited. The gazettelement is also necessary for agricultural use, water resources and in the circumvention of flooding.¹⁵

From SAM's point of view, this incident indicates the state government's approach to reserved forest. SAM believes that the structure plan which is being provided under the TCPA is more progressive than the provision under the existing NFA, which has lots of flaws. It is considered providential for the forest area to be selected for gazettelement in the structure plan as, to date, this plan under the TCPA can be considered the forest's

¹⁴ Awang @ Harun bin Ismail & Ors v Kerajaan Negeri Kedah & Ors [2010] 4 MLJ 83.

¹⁵ *Ibid.*

only saviour.¹⁶ This view has been addressed by the learned judge in the case of *Awang @ Harun bin Ismail*¹⁷ in that ‘when a structure plan is gazetted, it is then clothed with the authority of subsidiary legislation.’ The learned judge also cited the case of *Majlis Perbandaran Pulau Pinang v Syarikat Bekerjasama-sama Serbaguna Sungai Gelugor Dengan Tanggungan*¹⁸ where the Federal Court judge stated that ‘... the structure plan has legal status and cannot be disregarded.’

(b) Forest Percentage in Peninsular Malaysia

With regard to the percentage of forest in Peninsular Malaysia, the data which have been gathered from the researcher’s interviews indicate that most of the respondents, i.e. foresters of the SFD, pointed out Malaysia’s commitment expressed during the United Nations Conference on Environment and Development (UNCED) in 1992. Malaysia and other member states of the UNCED were taking part in discussions on the environmental problems that have triggered societies’ anxiety, especially natural disasters caused by destruction on earth. In this inaugural meeting, a commitment was made by Malaysia to maintain at least 50% forest cover of its land area to demonstrate its readiness to conserve the environment without discriminating against poor people, especially in developing countries.¹⁹

In regard to this forest percentage issue, the Director of Selangor SFD (Selangor SFD) pointed out that Selangor will maintain at least 30% forest covers in its land area, and this has been endorsed by the State Government of Selangor Executive Council Meeting.²⁰ This is in line with the government’s policy on “*Selangor Negeri Maju 2005*” (Selangor as a Developed State in 2005). Hence, for Selangor to become the first

¹⁶ See note 7.

¹⁷ See note 14.

¹⁸ *Majlis Perbandaran Pulau Pinang v Syarikat Bekerjasama-sama Serbaguna Sungai Gelugor Dengan Tanggungan* [1999] 3 MLJ 1.

¹⁹ See note 2 at 35.

²⁰ Interview with Director of Selangor Forestry Department in Shah Alam on 6 Feb. 2009.

developed state in Peninsular Malaysia, forest needs to be sacrificed in order to establish industrial, residential and agricultural areas. This pattern of mixed development has rapidly contributed to the state government's revenues.²¹

According to the Assistant Director of Kelantan SFD (Kelantan SFD), their forest coverage is currently 43%, and this figure represents protected and productive forest. Nevertheless, according to him Kelantan's forest percentage would be larger, i.e. 80%, should the forest be defined as green cover. This 80% denotes forest within state land, state park land, forest under the management of *Jabatan Perlindungan Hidupan Liar dan Taman Negara Semenanjung Malaysia*/Department of Wildlife and National Parks Peninsular Malaysia (PERHILITAN), rubber trees and oil palm trees.²² This figure is confirmed by the Forestry Statistics of Peninsular Malaysia which noted that the state of Kelantan still has 1,493,181 ha of land area, of which its total permanent reserved forests occupy 629,687 ha.²³ He also stressed that the state of Kelantan still possesses volumes of forests compared to other states in Peninsular Malaysia. In the case of the status of degazetted forest area that has not been developed by the state government of Kelantan, the Kelantan SFD no longer has jurisdiction to conserve the degazetted forest area. The role of the Kelantan SFD is limited to bringing out forest resources from the said land, if any, in the event of land-clearing by the state government.²⁴ This is important as the forest's budget is allocated to forestry activities under the jurisdiction of the SFD.

The state of Perlis, which has 80,302 ha of land area²⁵, has a small percentage of forest of 13.5%. This percentage includes plantations in the forest, orchards and poor forest.

²¹ *Ibid.*

²² Interview with Assistant Director of Kelantan Forestry Department in Kota Bharu on 12 Mar. 2008.

²³ Jabatan Perhutanan Semenanjung Malaysia, *Forestry Statistics Peninsular Malaysia*, (JPSM: Kuala Lumpur, 2006), 12-15.

²⁴ See note 22.

²⁵ See note 23.

This situation was confirmed by the Assistant Director of Perlis SFD (Perlis SFD) who further explained that the percentage describes the width of forest area and not the quantity of trees in the forest.²⁶ Perlis started to gazette its forest as reserved forest in 1952, i.e. the British era. Since then, almost 20,000 acres of reserved forest have been degazetted. In 1990, the Perlis SFD decided that the forest would no longer be harvested as the quantity of forest had decreased during the 25-to-30 year wait for the logged-over forest to become secondary forest.²⁷ According to the Perlis SFD, forest harvesting is not currently their primary concern in their forest management planning because the most important task is to enrich the quantity of trees. The Perlis SFD will only start to harvest again if it is satisfied that its forest area is capable of producing more trees. Nevertheless, the vital mission now is to maintain the remaining 13% of its forest cover; it will be very difficult if not impossible for the Perlis SFD to reach 30% forest coverage because, based on current situation of forest in Perlis, extra efforts and co-operation from the Perlis SFD, forest stakeholders and the public are urgently needed. In the meantime, the Perlis SFD is proposing gazette of all hills in the state of Perlis as forest reserve as none of these hilly areas are involved in development plans.²⁸

When questioned about the percentage of forest cover, the Director of the Terengganu SFD (Terengganu SFD) confidently stated that the percentage of Terengganu's forest coverage is not at stake.²⁹ According to the Forestry Statistics, the state of Terengganu possesses 545,818 ha of forest reserve out of 1,295,566 ha of land area, i.e. 42% forest coverage.³⁰ The Director of the Terengganu SFD commented that there is no specific formula for calculating the percentage of its forest coverage, and the Terengganu SFD

²⁶ Interview with Assistant Director of Perlis Forestry Department in Kangar on 25 Apr. 2008.

²⁷ *Ibid.*

²⁸ *Ibid.*

²⁹ Interview with Director of Terengganu Forestry Department in Kuala Terengganu on 9 Feb. 2009.

³⁰ See note 23.

has concluded that forest in Terengganu is at an optimum coverage. He also elaborated that there is no special commitment by the SFD to forest coverage in Terengganu.³¹

With a land area of 2,102,122 ha, the state of Perak is the second largest state in Peninsular Malaysia, after the state of Pahang. It had 884,205 ha of permanent reserved forests in 2006.³² This amounted to 42% of forest cover not including secondary forest. Before the degazettement of the Royal Belum forest reserve, the percentage was even larger at 47%.³³ The excised Belum reserved forest is no longer under the jurisdiction of the Perak SFD as it has been transferred to new management under the *Perbadanan Perhutanan Negeri Perak*/Perak Forestry Corporation.³⁴ The Assistant Director of Perak SFD (Perak SFD) said that the current trend of monitoring forest coverage is achieved through forest mapping and Geospatial Information System (GIS).³⁵ Thus, there is no specific formula to determine the percentage of forest coverage and no specific percentage to be observed and pursued. The Assistant Director of Perak SFD also expressed his desire to retain the current percentage of forest cover, i.e. 42%, rather than developing the area.³⁶

Like the state of Perlis, the state of Penang has one of the smallest percentages of forest cover, i.e. 7%. This information was provided by the Director of Penang SFD (Penang SFD) during an interview with the researcher.³⁷ According to the Director, because of its small percentage of forest cover, Penang is in the process of increasing this percentage. He stressed that secondary forest is a very dynamic forest in the form of natural generation. He also explained that the percentage of forest is determined through

³¹ See note 29.

³² See note 23.

³³ Interview with Assistant Director of Perak Forestry Department in Ipoh on 25 Feb. 2009.

³⁴ *Ibid.*

³⁵ *Ibid.*

³⁶ *Ibid.*

³⁷ Interview with Director of Penang Forestry Department in Komtar, Penang on 17 Apr. 2009.

the forest management plan. Currently, the state of Penang is restricting forest harvesting practices as its forest cover percentage is small. In 2006, it had 5,434 ha of permanent reserved forest out of a total land area of 103,150 ha, which is larger than the state of Perlis, and this amounted to 5% forest cover.³⁸

The Director of Johor SFD (Johor SFD) stated that Johor now has 26% forest cover not including green cover.³⁹ Like the Director of Perak SFD, the Director of Johor SFD contended that, with the help of GIS, the process of monitoring the percentage of forest will be much easier.⁴⁰

However, the coordinator of SAM has a different view from that of the foresters of the state SFDs; he argued that forest in Malaysia has been defined in a way that makes it appear to represent a large percentage of total forest cover. In this case, forest is being identified as green cover which includes plantation forest, production forest and agricultural plantations (oil palm, rubber and etc.). Evidently, when the government detailed the expanse of forest, the low percentage of 13% to 17% of virgin forest⁴¹ is indicative of the fact that virgin forest in Peninsular Malaysia has been degraded.

The SAM coordinator also points out the establishment of forest data by states in Peninsular Malaysia. He observes that data provided by the Malaysian Timber Council (MTC) are more reliable than states' data since the MTC is authorized to monitor a sustainable yield of trees in forest areas; therefore it is crucial that the MTC possesses detailed forest data. He also claimed that the overall data on forest provided by states are mostly not well maintained.⁴² SAM gives as an example the issue of state parks.

³⁸ See note 23.

³⁹ See note 4.

⁴⁰ *Ibid.*

⁴¹ See note 7.

⁴² See Sahabat Alam Malaysia, *Malaysian Environment in Crisis*, (Penang: Sahabat Alam Malaysia, 2006), 38-45.

Even though it is clearly written that the forest area is a state park, surprisingly, when SAM surveyed that particular area, they found that the forest area has been left out and is not being managed. In this case, the forest area has been destroyed in the process of developing buildings and chalets.⁴³ Undeniably, when one particular forest area has been gazetted for recreational purpose, arranging infrastructure and facilities for recreational activities is not the only matter of importance: the conservation aspects of forest should also be taken into account.

SAM also argues that it is the government's intention to include plantations as green cover but, for SAM, plantations are not forests at all. This includes landscape plants, abandoned areas (bushes), etc. SAM also opined that secondary forest refers to logged-over forest which grows back within 10 to 30 years. For example, Ulu Muda forest, which was logged during the British period, took more than 40 years to become permanent forest again.⁴⁴

In commenting on the government's environmental approach to forest areas, SAM gave as an example the situation of mangroves in Merbok, Kedah.⁴⁵ SAM requested that this huge area of mangrove forest be gazetted as a Ramsar area but the state was not interested. Another situation pertains in Ulu Muda and Pedu, Kedah. These locations are very close and encompass three dams and SAM requested that that area of forest be categorized as water catchment areas. The state claimed that part of the forest has been gazetted as a water catchment area. After investigating the state's claim, SAM found that only the watery part is gazetted as a water catchment area while the forest surrounding the watery area is designated a production forest. SAM opined that this is an example of a wrong environmental approach where the importance of forest as water

⁴³ *Ibid.*

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

catchment area was ignored. Water would not exist without forest.⁴⁶ In this particular case, the forest surrounding the dam (watery area) should also be gazetted as permanent reserve forest.

To return to Malaysia's pledge in the UNCED, other countries were also requested to maintain at least 30% forest cover over the earth's land mass; in 1992 the percentage was 27.6%.⁴⁷ The percentage, however, remains uncertain because, at that particular time, the former Prime Minister of Malaysia, Tun Dr. Mahathir Mohamed, allegedly challenged the Northern countries' refusal to allow developing countries to utilize forest resources when the reality in the past was that the Northern countries had extensively used their forest resources to the limit.⁴⁸ Indeed, this is a political agenda rather than an environmental concern as to maintain 50% forest cover is burdensome as governments have to struggle with economic, social and environmental demands.

Thus, the above discussion indicates that it is difficult to reach a standard definition of forest. Forest has been interpreted in a manner that represents quantity rather than quality. With regard to percentage of forest, there is no guideline or instruction by the federal government regarding percentage of forest; thus, it can be said that there is no assurance that the percentage of existing forest will be sustained. Furthermore, the area of forest allocated to production is greater than that reserved for protection. Hence, all these situations indicate that the precautionary principle is not being considered or applied in forest management.

Nevertheless, all the above-mentioned responses and issues raised by the SFDs and the NGO need to be taken into consideration in order to understand the real situation

⁴⁶ *Ibid.*

⁴⁷ See note 2 at 35.

⁴⁸ *Id* at 36.

regarding current forest issues. The issues are worthy of study and consideration by the relevant authority in order to find a clearer definition of forest. This would defeat uncertainty in determining an appropriate definition of forest; thus, the percentage of forest could be observed and maintained.

5.2.1.2 Physical Development Threats to Forest

To sustain forest is not an easy task, and it requires determination and courage to ensure that future generations will benefit from it. Forest should be sustained by all possible means whenever development is needed. The reasons for development should not take precedence over the primacy of preserving forest. Based on the questionnaire developed by the researcher, themes have been created to elucidate the impact of urbanization in every state of Peninsular Malaysia and also the role of the SFDs in forest conservation in their respective states with regard to their involvement in the process of developing forested land, in gazetting forest area as Permanent Forest Estate (PFE), and in deciding utilization of the PFE for activities listed under the Environmental Impact Assessment (EIA). Therefore, this section discusses all the above-mentioned themes in order to determine the extent to which forest is affected by current development trends.

(a) Impact of Urbanization on Forest

Land development in Peninsular Malaysia has undergone tremendous changes during the period spanning pre-independence to the present day. This tremendous change has, however, affected the forest environment in the drive to develop the forested land for several different land uses, mainly for agricultural purposes, i.e. oil palm, rubber, cocoa, paddy fields, vegetables, tea etc. Land has also been developed for residential and industrial purposes.

According to a book published by FELDA on land development in Malaysia, the evolution of land development can basically be elaborated based on development periods: for instance, pre-independence (before 1957 or 1963), post-independence (1957/1963-1970), the New Economy Policy period (1971-1990), the National Development Policy period (1991-2000) and the Vision 2020 era (2001-2020).⁴⁹

Of the above-mentioned periods of land development, significant changes in land development that affected forested areas can be seen during the New Economy Policy period (1971-1990).⁵⁰ Only a small amount of land was developed from the state governments' abandoned land, particularly land developed by RISDA. In this particular period, 892,558 ha of forested area were cleared, mainly for agricultural purposes.⁵¹ The details of land development by states in Peninsular Malaysia for this particular period can be seen in Table 5.1 below.

Table 5.1: Land Development in the National Economic Policy Era (1971-1990)

No.	States	Developer	Year developed	Area (ha)	Type of crop(s)
1	Pahang	FELDA	1971-1987	243,438	Rubber, Oil Palm
		FELCRA	1974-1985	44,782	Rubber, Oil Palm
		RISDA	1976-1989	10,584	Oil Palm
		Tabung Haji	1972-1984	6,994	Oil Palm
		Private Company	1979-1990	16,826	Rubber, Oil Palm
	Total			322,624	
2	Johor	FELDA	1971-1986	111,300	Rubber, Oil Palm
		FELCRA	1977-1984	5,253	Oil Palm
		RISDA	1981-1987	1,551	Oil Palm
		Tabung Haji	1982-1988	4,159	Oil Palm, Papaya/Star Fruit
		Private Company	1979-1985	31,915	Rubber, Oil Palm
	Total			154,178	

⁴⁹ Sulong Mohamad and Katiman Rostam, *Pembangunan Tanah di Malaysia- Menempa Kemakmuran di Bumi Bertuah*, (Kuala Lumpur: Federal Land Development Authority (FELDA), 2007). See also Brookfield, H, Lesley Potter and Yvonne Byron, *In Place of the Forest Environmental and Socio-economic Transformation in Borneo and the Eastern Malay Peninsula*, (Kuala Lumpur: United Nations University Press, 1995).

⁵⁰ *Ibid.* See also Cherla, B. Sastry, P.B.L. Srivastava and Abdul Manap Ahmad et al, eds., *A New Era in Malaysian Forestry*, (Selangor: Universiti Pertanian Malaysia Press, 1977), 177.

⁵¹ *Ibid.*

No.	States	Developer	Year developed	Area (ha)	Type of crop(s)
3	Negeri Sembilan	FELDA	1971-1983	58,463	Rubber, Oil Palm
		FELCRA	1978-1984	891	Oil Palm
		RISDA	1986	4,164	Oil Palm
	Total			63,518	
4	Terengganu	FELDA	1973-1987	30,500	Rubber, Oil Palm
		FELCRA	1971-1990	7,535	Oil Palm
		RISDA	1976-1990	11,734	Oil Palm
		Tabung Haji	1980-1982	1,827	Oil Palm
		Joint venture	1980	2,046	Oil Palm, Cocoa
		Private Company	1970s-1980s	32,432	Oil Palm, Coconut
	Total			86,074	
5	Perak	FELDA	1975-1983	12,908	Oil Palm, Rubber
		FELCRA	1979-1984	13,607	Oil Palm, Cocoa
		RISDA	1975-1989	9,983	Oil Palm
		PKEN	1985	448	Oil Palm
		Private Company	1972-1986	22,204	Oil Palm, Rubber
	Total			59,150	
6	Kelantan	FELDA	1974-1986	35,782	Oil Palm
		FELCRA	1978-1986	5,812	Oil Palm /Rubber
		KESEDAR	1980	5,595	Oil Palm /Rubber
		Lembaga Kemajuan Tanah Negeri Kelantan	1974	29,000	Rubber
		Perbadanan Kemajuan Iktisad Negeri Kelantan	1974	6,628	Oil Palm /Rubber
		YAKIN, Lojing	1974	4,000	Tea/Vegetables and etc.
		PKNS	1972	2,800	Oil Palm
		Private Company	1980	2,655	Oil Palm /Rubber
	Total			92,272	
7	Kedah	FELDA	1977-1983	6,429	Rubber
		FELCRA	1977-1982	5,406	Rubber
		RISDA	1978	1,332	Oil Palm/Rubber
		KEDA	1982-1989	1,027	Durian/Rambutan/Rubber/Cocoa/Herbs
		PKNK	1972-1976	4,593	
		Joint venture	1973	8,000	Sugar Cane

No.	States	Developer	Year developed	Area (ha)	Type of crop(s)
		Private Company	1986	2,790	Oil Palm /Rubber
	Total			29,577	
8	Selangor	FELDA	1974-1990	22,090	Oil Palm
		FELCRA	1984	1,266	Oil Palm
		State Agency	1976	4,953	Oil Palm, Rubber, Coconut, Paddy
		Private Company	1979	2,984	Oil Palm
	Total			31,293	
9	Perlis	FELDA	1971-1981	5,448	Rubber, Sugar Cane, Mango (<i>Harum Manis</i>)
		FELCRA	1986-1990	9,255	Rubber
		RISDA	1981	91	Rubber/ Oil Palm
		MUDA	1971-1974	20,000	Paddy
		Private Company	1990	10,411	Oil Palm/Rubber
	Total			45,205	
10	Melaka	FELDA	1971-1990	1,986	Rubber
		FELCRA	1980s	1,414	Oil Palm
		Yayasan Melaka	1984	674	Oil Palm
		Private Company	1981	3,113	Oil Palm
	Total			7,187	
11	Pulau Pinang	FELCRA	1984	1,480	Oil Palm
	Total			1,480	
	Total Sum			892,558	

Source: Tunku Shamsul Bahrin & Lee Boon Thong (1988), Ibu Pejabat FELCRA, RISDA, Tabung Haji and Private Company, quoted by Sulong (2007).

It is clear from the table that Pahang has the largest area of development, where 322,624 ha of forested land were cleared for oil palm and rubber plantation. Johor, which has the second largest area of development, has developed 154,178 ha of forested land into oil palm, rubber and fruit (papaya, star fruit) plantations. Several developers from federal and state agencies and also private company were involved in this land development; these include the Federal Land Development Authority (FELDA), Federal Lands Consolidation and Rehabilitation Authority (FELCRA), Rubber Industry Smallholders

Development Authority (RISDA), Tabung Haji, the Land Development Board and also private companies.⁵²

The other periods did not experience significant changes in land development because most of the states in Peninsular Malaysia, especially small states such as Perlis, Penang and Melaka, have discontinued developing new areas as a result of a shortage of potential land for development purposes. Penang discontinued development in the agricultural sector in 1971, while Perlis discontinued in 1990 and Melaka withdrew in 2000. Therefore, these states are focusing on upgrading the productivity of their agricultural land and are also involved in the industrial and service sectors.

The era of Vision 2020 evidenced the withdrawal of federal development agencies, i.e. FELDA and FELCRA, from establishing and developing new agricultural areas in all states of Peninsular Malaysia.⁵³ This is a result of a shortage of suitable land for large-scale agricultural projects. Thus, most of states have converted agricultural land to town land to generate revenue and income.⁵⁴ In Johor, RISDA and FELCRA have focused on rehabilitation and replanting of agricultural land in order to upgrade productivity and smallholders' incomes. For Pahang, Terengganu, Perak and Kelantan agricultural activity is still ongoing with the continuation of projects by private companies and the agricultural department. The agricultural department of Pahang has continued to plant vegetables and fruits whereas Terengganu still has potential agricultural land to be developed. In Perak, even though federal agencies have withdrawn from development projects, the oil palm project has been continued by a private company. In Kelantan, a rapid agricultural project in Lojing Highlands is now being developed. Selangor is also

⁵² *Ibid.* Tabung Haji is established for hajj management and is also involved in capitalizing available resources to strengthen the economy. Land Development Boards exist almost in every state in Peninsular Malaysia i.e. DARA (Pahang), KESEDAR (Kelantan), KETENGAH (Terengganu), LADA (Langkawi), MADA (Kedah), PERDA (Pulau Pinang). Private company i.e. Kuala Lumpur – Kepong Bhd, IOI Group, Asiatic Development Bhd., United Plantation Bhd., TDM Plantation Bhd., Sime Darby Bhd.

⁵³ See note 49.

⁵⁴ *Ibid.*

facing land shortages for agricultural development but has turned its attention to the industrial and service sectors to suit the state development policy.⁵⁵

The state of Selangor, with its vision of “*Selangor Maju 2005*” (Developed Selangor in 2005), is in the process of realizing its vision of becoming a balanced and holistically-structured developed state. Hence, according to the Director of Selangor SFD, among the reasons for the reduction of forest area in Selangor is the change in society’s expectation about forest’s function and services; society nowadays demands areas for recreational purposes, water resources and clean air.⁵⁶ He also said that the need to sustain natural resources contributed to economic benefits. Thus, he is more concerned about extracting forest resources using sustainable methods to create a win-win situation where society enjoys recreational areas provided by the forestry service whilst the state government generates revenue from the forest resources.⁵⁷ The case of *Perbadanan Kemajuan Negeri Selangor v. Kwong Kee Cheong Sawmill Sdn Bhd*⁵⁸ shows that the word ‘permanent’ in permanent reserve forest can easily be removed for the purpose of development of ‘*Pusat Pertumbuhan Baru*’ by the *Perbadanan Kemajuan Negeri Selangor* (Selangor Development Corporation), also known as PKNS.⁵⁹

According to the Assistant Director of Kelantan SFD, the development of Lojing in Kelantan has contributed to forest loss.⁶⁰ Nevertheless, he explained that the developed area of Lojing has been measured and other areas have been selected to replace the lost forest reserve. He said that this is crucial as the state is totally dependent on forest

⁵⁵ *Ibid.* See also Repetto, R and, Malcolm Gillis, eds., *Public policies and the misuse of forest resources A World Resources Institute Book*, (New York: Cambridge University Press, 1988), 155. “The most important timber-bearing states in West Malaysia have been Pahang (35 percent of forest area), Johore, Terengganu, Kelantan, Kedah and Perak. Even Perlis has experienced rapid forest conversion since 1970”.

⁵⁶ See note 20. See also Normawati Ah Adnan, “Penerokaan Hutan Punca Kurang Air”, *Sinar*, 22 May 2008.

⁵⁷ *Ibid.*

⁵⁸ [2011] 7 MLJ 77.

⁵⁹ Gazette no. 307/1991 dated 8 February 1991 provided that ‘ State government authority declares that the area described in the table is part of permanent reserve forest known as Sungai Buloh Forest Reserve...is no longer permanent reserve forest from broadcasting date of notification in the gazette.’

⁶⁰ See note 22.

resources; hence the replacement is mandatory.⁶¹ Section 12 of the National Forestry Act 1984 clearly provides that the State Authority should replace or constitute an approximately equal area of the excised forested land as a permanent reserve forest. Nevertheless, the discretionary power vested in the State Authority makes it hard to obtain a genuine disclosure of the precise amount of land that has been replaced. This provision shows the application of the ‘polluter pays’ principle, which means that the state government should diligently replace the developed forested area so that the forestry department can conserve that particular land. This matter should be dealt with seriously; otherwise Peninsular Malaysia will gradually lose its precious heritage.

Forest harvesting was discontinued in 1990 in the state of Perlis due to the major loss of forest; thus, the state government decided not to harvest any more of its forest until its secondary forest was ready to be harvested, that is after 25 to 30 years.⁶² The Assistant Director of the Perlis SFD (Perlis SFD) explained that current project on forested land in Perlis is a small Technology Park project involving 20 acres of forested land. He further explained that, in moving towards enrichment of forest in the state of Perlis, the Perlis SFD has proposed the gazettement of every hill in Perlis as forest reserve. He is hoping that the proposal will be approved as Perlis has no more forested area that can be recognized as forest reserve.⁶³ However, he stated that approval of the proposal is subject to the State Executive Council; if the Council agrees and is satisfied with the proposal, the SFD’s plan to expand its jurisdiction towards hills in Perlis will succeed.⁶⁴

However, SAM has a different view on this particular issue of gazettement of hills as forest reserve as it does not accept the idea of small mountains surrounded by urbanization

⁶¹ *Ibid.*

⁶² See note 26.

⁶³ *Ibid.*

⁶⁴ *Ibid.*

being considered and gazetted as forest reserve.⁶⁵ For SAM, that particular area has been heavily logged and abandoned without being properly managed, and it is no longer appropriate to consider that area as forest reserve. As an example, it quotes the condition of the forest area of the *Banjaran Titiwangsa* (Titiwangsa Central Forest Spine) where a road has been constructed in parts of the area but the trees along the road are still considered as forest. The authority, however, considers the whole area as forest when, in fact, they have lost quite a large amount of forest area. Besides the road construction, there will be construction of highways and bungalows, the encroachment of plantations and also agricultural activities within the forest area. On this basis, SAM disagrees with the SFD's assessment of the total amount and percentage of reserved forest.⁶⁶

The Assistant Director of Negeri Sembilan and Melaka SFD conceded that there is pressure to proceed with urban development.⁶⁷ The SFD needs to highlight the impact on forest in the face of demands for urban development. He opined that sometimes it is quite difficult to maintain forest as the power to decide the de-gazettement of forest reserve for the purpose of development is vested in the state government's jurisdiction.⁶⁸

A large expanse of forest in the state of Terengganu has disappeared in order to serve development of suburban areas, i.e. residential areas, industrial parks, public amenities (East Coast Express Highway (ECEH)), and schools and universities; here, the degazettement of forest has clearly supported public and economic purposes.⁶⁹

⁶⁵ See note 7.

⁶⁶ *Ibid.*

⁶⁷ Interview with Assistant Director of Negeri Sembilan/Melaka SFD in Seremban on 5 Mar. 2008.

⁶⁸ *Ibid.*

⁶⁹ See note 29.

The Director of the Perak SFD claimed that there is no such development impact on forest because most development has largely affected the urban areas. Nevertheless, the Penang SFD stated that there is higher demand by the public for recreational areas; thus, some parts of the forest have been gazetted for recreational purposes. The development of 320 acres of Johor state's new administrative centre at Kota Iskandar, Nusajaya also involved forest area. According to the Director of Johor SFD, during the establishment of the new city of Kota Iskandar, acres of forest reserve had to be degazetted to serve the purpose.⁷⁰ Currently, Johor SFD is in the process of increasing the quantity of forest through the programme of *Hutan Kita-Johor*; through this programme, about 33% of the state government land in Kota Iskandar has been planted with trees.⁷¹

(b) The Role of State Forestry Departments of Peninsular Malaysia in Development of Forest

The future of forest in Peninsular Malaysia depends on its conservators, i.e. the SFDs of every state in Peninsular Malaysia. They are responsible for ensuring the sustainability of forest to provide sustainable products and services that benefit human life and the environment. However, the burden of conserving forest does not rest solely on the forest conservators' shoulders because the public at large are also responsible for ensuring the sustainability of forest through different approaches such as efforts by the Malaysian Nature Society (MNS), one of the conservation NGOs in Malaysia. Among others, MNS is cooperating with corporate members and supporters from numerous backgrounds, for instance TESCO Stores (Malaysia) Sdn Bhd, IKANO Pte Ltd (IKEA), Forest Research Institute Malaysia, Exxonmobil, Genting Berhad, HSBC Bank Malaysia Berhad, CIMB Bank Bhd and many more. Their conservation activities

⁷⁰ See note 4.

⁷¹ "Tumbuhan hutan tropika hias Kota Iskandar", *Berita Harian*, 11 Nov. 2009, 9 June 2011 <<http://www.iskandarmalaysia.com.my/news/011111/tumbuhan-hutan-tropika-hiasi-kota-iskandar>>.

involve mangrove-planting at Kuala Selangor Nature Park on 29th June 2011 by the IKEA team, promotion of reusable plastic bags for a green campaign and retailing of plastic bags at 10 or 20 cents which will be channelled to MNS by TESCO and IKEA, a book publication entitled '*The Mangroves of Kuala Selangor*' by HSBC-KSNP (Kuala Selangor Nature Park) Green Partnership Programme, and a cash donation by TESCO Stores (Malaysia) Sdn Bhd, Nestle (Malaysia) Berhad and Tetra Pak (Malaysia) Sdn Bhd amounting to RM34,290 in October 2010.⁷² Therefore it is obvious that there are many ways for the public to contribute to nature conservation. Besides NGOs, there are also public community organisations that are actively involved in nature conservation.

In the state of Selangor, the role of the Selangor SFD is crucial for the forest to survive. The Director of the Selangor SFD stressed that the state needs to sustain 30% of its remaining forested land because most of the forested land in Selangor has been developed. He also maintained that their involvement in developing forested land is in accordance with the aims of the National Forestry Policy, which has two objectives⁷³. The objectives are 'to conserve and manage the nation's forest based on the principles of sustainable management and to protect the environment as well as to conserve biological diversity, genetic resources, and to enhance research and education.'⁷⁴

The Director of the Selangor SFD also contended that the SFD adheres to the forestry manual which regularly adopts new technology to benefit the forest, i.e. adoption of GIS and image system from satellites. He further contended that the SFD always strives to reserve as much forest area as possible and has done so since the colonial era.⁷⁵ Had the

⁷²Malaysian Nature Society (MNS), *Supporting MNS*, 2006-2010, 5 Aug..2011
<<http://www.mns.my/section.php?sid=114&pb=Partner>>.

⁷³ See note 20. See also Malaysia: Ministry of Primary Industries, *Forestry in Malaysia*, (Kuala Lumpur: Ministry of Primary Industries, 1988), 10-13.

⁷⁴ The National Forestry Policy 1978 (Revised 1992) approved by the National Land Council on the 19th November 1992.

⁷⁵ See note 20.

forest not been reserved since those earlier times, the volume of forest loss in the state of Selangor would have been much larger than the current figure.

Pertaining to the issue of the nineteen activities listed under the Environmental Quality Act 1974 (EIA), it is permitted for permanent forest estate (PFE) to be utilized rather than fully protected. Hence, it seems that the rule has permitted physical development activities within or around the PFE with the proviso that these protected areas are spared any disastrous effects. According to the Director of the Selangor SFD, on this particular issue whatever has been underlined by the EIA is regarded as a condition that the SFD or any related individual or company is bound by.⁷⁶ If anyone breaches the conditions of the EIA, they will be charged under the National Forestry Act for breaching the conditions of their license and will be brought to court. Normally the wrong-doer will be incarcerated and their license suspended. This occurred in the case of *Dato' Malik & Salemah Entreprise lwn Mohd Azmi bin Mohd Mohd Ali dan lain-lain*⁷⁷ where timber stealing was reported and the plaintiff's workers were all apprehended because there appeared to be no permission signage or logging license from the forestry department at the plaintiff's logging activity sites. Most of the cases reported have been related to breaches of conditions of logging licenses and permits.

Moving on to discuss the questionnaire's themes in the state of Kelantan, with regard to involvement of the forest conservator, i.e. the Kelantan SFD, in the development of forested land, the Assistant Director of the SFD elaborated on several important points to demonstrate that forest in Kelantan is being sustainably managed.⁷⁸ He stressed that they need to observe the correct procedure for the degazettement of forest. They also need to ensure that forest resources have been taken from the area tendered after the

⁷⁶ *Ibid.*

⁷⁷ *Dato' Malik & Salemah Entreprise lwn Mohd Azmi bin Mohd Mohd Ali dan lain-lain* [2009] 9 MLJ 674.

⁷⁸ See note 22.

process of clearing the forested land is done. Another role of the SFD is that, in order to recognize any large impact on forest from development hence, the EIA must first assess the situation to avoid possible damage to forest. He also said that it is important for the forest conservator to ensure that development of forested land involves only productive and not protected forest.⁷⁹

In gazettement forest as reserved forest, the Kelantan SFD opined that Kelantan possesses large areas of forest; hence, the gazettement of any forested area as reserved forest is not essential for the time being. The last gazettement of permanent forest reserve in Kelantan was on 6 June 1991, that is Hutan Simpan Kekal Jeli, Tanah Merah (Permanent Forest Reserve Jeli) with 3,649 ha.⁸⁰ They further stated that to establish new forest is not resourceful when compared to developing shopping lots and residential areas in order to generate state government revenues. Pertaining to the issue of listed activities that are allowed within forest under the EIA, the Kelantan SFD asserted that protected areas will not be touched by the SFD.⁸¹

The state of Perlis has a different experience of involvement in developing forested land, as expressed by the Assistant Director of the Perlis SFD during the interview. The Perlis SFD has direct involvement in a research project funded by the Danish International Development Agency (DANIDA).⁸² In this project, the researchers developed the forest area by conducting a study. After the researchers had completed the study, they would hand over the research-developed forest area to the SFD to be maintained. In this particular case, the SFD would propose the forest area as a state park so that the area would be under the jurisdiction of the state government. Another forest

⁷⁹ *Ibid.*

⁸⁰ Jabatan Perhutanan Negeri Kelantan, *Laporan Tahunan 2004*, (Kota Bharu: Jabatan Perhutanan Negeri Kelantan, 2004).

⁸¹ See note 22.

⁸² See note 26.

development project being implemented by the federal government (Northern Corridor Economic Region (NCER) project developed by the Sime Darby Company) is a Technology Park; for this purpose the Perlis SFD needs to degazette 20 acres of forest reserve. The Assistant Director of the Perlis SFD maintained that, in order to uphold the forest conservation programme, they are in the process of enriching the planting of trees to resolve the problem of degraded forest and also forest trespassing, mostly by the villagers.⁸³

The role of the Perlis SFD in gazetting reserved forest is not much different from other states in Peninsular Malaysia. However, the Assistant Director of the Perlis SFD shared his experience of establishing a state park: gazetting a state park is much easier in terms of the length of the process if compared to the longer process of gazetting forested land as reserved forest. He explained that, normally, it would take about seven to eight months to gazette a state park because the status of the land had been that of a reserved forest, while gazetting forested land to become reserved forest would take years.⁸⁴

The Negeri Sembilan/Melaka SFD is required to meet with the state government if there are any development projects involving forested land.⁸⁵ Every government department attends to share and provide information and input regarding the project based on their fields of expertise. In gazetting forest area as PFE, the Negeri Sembilan/Melaka SFD identifies potential areas to become forest reserve and later propose the potential area to the land office. If accepted, the proposal is sent to the state executive council for consideration. After 1909, some forest areas were reserved by the British but it was not

⁸³ *Ibid.*

⁸⁴ *Ibid.*

⁸⁵ See note 67.

until 2002 that PRF Menong was gazetted. The SFD always refers to the NFA for guidance on the correct procedure to be adopted.⁸⁶

Pertaining to development projects in the state of Terengganu, if they involve forested land the Terengganu SFD needs to ensure that all trees in the degazetted forest are cleared before handing over to the developer. The Director of the Terengganu SFD explained that the status of degazetted forest must not be production forest because, after the degazettement of reserved forest, the area is no longer under the SFD's jurisdiction.⁸⁷ However, the SFD's views on the development on forested land must be delivered to the state executive council for deliberation. Regardless of any comments or recommendations by the SFD, the state government has the final say on any project related to forest.⁸⁸ In gazetting forest area as PFE, the Terengganu SFD identifies suitable forest areas to be proposed as forest reserve. Currently, Terengganu has 2000 ha of forest area to be preserved. The Director of the Terengganu SFD also stated that EIA has underlined specific rules on land conversion for agricultural and infrastructure purposes. He also said that the SFD has prepared an EIA macro proposal for the purpose of environment compliance.⁸⁹

The state of Perak, however, emphasized the role of the SFD in providing comments and advice to the state government on any development projects involving forested land.⁹⁰ In gazetting forest area to be reserved, the SFD is in charge of preparing paperwork to be presented at the state executive council meeting where the proposed forested area will be considered for gazettement of PFE. In explaining the EIA guidelines on activities involving protected areas (forest), the Assistant Director of

⁸⁶ *Ibid.*

⁸⁷ See note 29.

⁸⁸ *Ibid.*

⁸⁹ *Ibid.*

⁹⁰ See note 33.

Perak SFD highlighted the following situation: if the site is more than 1000 m above sea level, the area is a water catchment area or the slope is more than 45°, EIA compliance is mandatory.⁹¹

In the state of Penang, the SFD is always directly involved in development matters and always makes decisions based on the public interest. The Director of Penang SFD also discussed the established committee on mangrove conservation. This committee was established in the aftermath of the tsunami that hit the northern part of Peninsular Malaysia in 2004. He also noted four simple steps for SFD to gazette forest as reserved area: 1) to locate the area; 2) to measure it' 3) to propose it to the land administrator; 4) to propose it to the state executive council meeting.⁹² With regard to activities that are allowed within the PFE by the EIA, he opined that the guidelines created space and opportunity for development activities; however, he stressed that the activity must be a genuine one that takes conservation and public needs into consideration.⁹³

The SFD of the state of Johor maintained the role of providing advice and expertise to the relevant authorities on the impact of development on the forest area.⁹⁴ Pertaining to the project on forest plantation, the SFD's Director elaborated that this project, which was initiated in 1980 by the SFD, had however been taken over by the Ministry of Agriculture and Commodities in 1990.⁹⁵ He also stated that, in regard to the guidelines provided by the EIA that permit activities in the PFE, the requirements are seen as a matter of mandatory compliance for the developer in developing forest areas in order to safeguard forest sustainability. Nevertheless, the activities come with conditions which

⁹¹ *Ibid.*

⁹² See note 37.

⁹³ *Ibid.*

⁹⁴ See note 4.

⁹⁵ *Ibid.*

the developer must meet. He also stated that it creates employment opportunities and could boost the economy.⁹⁶

The SFDs' opinion, however, differs from that of SAM in that SAM is more concerned about the SFDs' role in encouraging state governments to gazette new PFE. In SAM's observation there have been no new data with regard to new PFE since the British administration.⁹⁷ However, there is a National Park which is being upgraded in Belum Forest, Pahang. This forest is declared as 'Royal Belum'. Therefore, any form of production activity in this forest is prohibited.⁹⁸ For SAM this is a better approach as the forest is no longer regarded as production forest. The state of Penang also upgraded Teluk Bahang forest to a National Park. Thus, in SAM's estimation these are among the efforts to protect forest in Peninsular Malaysia, i.e. upgrading the status of forest to the highest 'Royal' level and also changing the forest's status to National Park but not establishing new PFE.⁹⁹

In response to the role of EIA in allowing certain activities within forest areas, SAM said that all the nineteen activities are subject to EIA procedure. The best idea is to request that any development go through the EIA process. However, this does not actually help to stop unnecessary development: it only helps in mitigating some of the problems that might arise. A development might not be needed; however, if the decision has been taken to proceed, not even the EIA can stop it.¹⁰⁰ SAM gives as an example the case of logging in Ulu Muda, Kedah; EIA could not stop the project but did mitigate the consequences, i.e. EIA issued an order to construct the road properly even though the project was not pivotal. SAM further contended that, if one looks at the relative cost

⁹⁶ *Ibid.*

⁹⁷ See note 7.

⁹⁸ *Ibid.*

⁹⁹ *Ibid.*

¹⁰⁰ *Ibid.*

benefits, conserving that particular forest as a water catchment area is more necessary because those areas distribute water to all MADA's farmers in Kedah. In this Ulu Muda case, the logging project was finally stopped on cabinet instructions but, in fact, this type of case is seldom discussed in cabinet meetings. Thus, SAM could not see how EIA might assist in dealing with projects that are not pivotal and have negative effects on the forest. In fact, EIA can only stop projects on technical grounds i.e. failure to follow correct procedure.¹⁰¹

The states of Pahang, Johor, Terengganu, Kelantan, Kedah and Perak have been the most important timber providers in Peninsular Malaysia.¹⁰² The states of Penang, Perlis and Melaka have ceased harvesting their forests as the states have already reached the limit of forest coverage and Perlis has experienced rapid conversion since 1970.¹⁰³ The decisions by the states of Penang and Melaka to discontinue harvesting have also been influenced by their lack of development potential (both have been rapidly developed) and geographical factors (they are small states). The SFDs, especially those possessing high percentages of forest coverage such as Kelantan, Terengganu and Perak, should have drawn up advanced plans on how to sustain and protect their forest from being diminished by the development agenda. Nonetheless, the role of the SFDs in conserving forest seems to be overshadowed by the relevant authorities in their need to meet development demands. Thus, there should be special provision under the NFA for forest conservators to have sole power to protect forest from being depleted, as the maintenance of forest cannot be compromised.

¹⁰¹ *Ibid.*

¹⁰² Repetto, Robert and Gillis, Malcolm, eds., *Public policies and the misuse of forest resources A World Resources Institute Book*, (New York: Cambridge University Press, 1988), 155.

¹⁰³ *Ibid.*

5.2.1.3 Forest Laws and Rules

(a) Practice of Forest Law and Policy by Forest Conservators

The position of forests under the states' jurisdictions has been discussed in chapter three of the thesis. In the past, during the colonial era, forest had been under the jurisdiction of the state, which has contributed to the variations of law and practice within states in Peninsular Malaysia. Standardization of the forest laws across states came about only after the National Forestry Policy (NFP) was accepted by the National Forestry Council on 29th August 1977 and later approved and endorsed on 10th April 1978 by the National Land Council. The NFP had replaced the Interim Forestry Policy 1952.¹⁰⁴ The passing of the NFP is considered a meaningful achievement by the forestry sector of Peninsular Malaysia during the Third Malaysia Plan (1976-1980). In that particular period, the forestry sector was expected to apply the concept of sustained yield in order to ensure sustainable forest resources so that it could continue contributing to the development of the nation's socio-economy, a practice that was in line with the New Economy Policy.¹⁰⁵

The National Forestry Act 1984 (NFA) followed with the aim of replacing the Forest Enactment and Rules which were enacted by the Federated and Unfederated Malay States in the early thirties. The NFA is more concerned with the administration and enforcement of forest law, for instance the enforcement of license and permit conditions and the listing of forest offences and penalties, than with specifically underlining forest environment aspects such as the precautionary principle approach, the 'polluter pays' principle and the right of the public to participate in forest decision-making.

¹⁰⁴ Foreword of the Director General of Forestry, Forestry Department of Peninsular Malaysia. Dasar Perhutanan Negara [National Forestry Policy] diluluskan oleh Majlis Tanah Negara pada 10hb April 78 [approved by the National Land Council on the 10th. April 78].

¹⁰⁵ *Ibid.*

In 1992, the NFP was revised to deal with current issues and developments of the state and it is currently known as the National Forestry Policy 1978 (Revised 1992).¹⁰⁶ The objective of the forestry sector is clearer in the revised NFP compared to the first version of the NFP. Nevertheless, the first version is more detailed in its explanation of the process of managing and conserving PFE. The revised NFP policy, however, covers brief ideas on management of the PFE and anything related therein, for instance the gazettelement of the PFE, forest legislation, sustainable forest management, forest regeneration and rehabilitation, forest harvesting, etc.¹⁰⁷ The revised NFP also aims to harmonise and bring uniformity across the states in granting licenses, in allowable harvesting methods, and in forest regeneration policies.¹⁰⁸

Thus, from the revised NFP it can be understood that the policy has been drafted by the government in order to safeguard and conserve PFE and other forest in Peninsular Malaysia. This has been portrayed in its primary objective:

2.1 Objectives

- 2.1.1 To conserve and manage the nation's forest based on the principles of sustainable management.
- 2.1.2 To protect the environment, to conserve biological diversity and genetic resources, and to enhance research and education.

In terms of perceptions on the implementation of standardized laws and policies, Directors of all SFDs responded to this matter in the interviews and all of them agreed that there is no question of SFDs in Peninsular Malaysia applying different sets of laws because the passing of the Policy and the Act has explained everything. The Director of Johor SFD further elaborated that all issues and matters relating to forestry are

¹⁰⁶ See note 74.

¹⁰⁷ The other related programmes under the NFP are forest products and industries, bumiputra participation in wood-based industries, forest plantation, agro-forestry, non-wood forest product, forestry research, manpower development and training, forestry education and extension, conservation of biological diversity, community forestry, recreation and tourism and also international cooperation.

¹⁰⁸ See note 102 at 158-159.

monitored by the National Forestry Council at federal level; therefore any differences that arise among SFDs must be referred to this council.

Nevertheless, the SFDs differ only in their implementation date of the Act and this has been confirmed by the Terengganu, Kelantan and Negeri Sembilan SFDs.¹⁰⁹ The difference is basically due to the technical process of approval and endorsement by the states' executive councils.¹¹⁰ The difference in SFDs' implementation dates can be seen in the following table.

Table 5.2: Gazettement date for the implementation of the National Forestry Act (Amendment) 1993 by states in Peninsular Malaysia

State	Gazettelement date for the implementation of the National Forestry Act (Amendment) 1993
Johor	29.12.1993
Kedah	03.02.1994
Kelantan	28.04.1994
Melaka	26.05.1994
Negeri Sembilan	12.05.1994
Pahang	23.12.1993
Perak	07.07.1994
Perlis	18.08.1994
Pulau Pinang	03.02.1994
Selangor	12.05.1994
Terengganu	09.06.1994
Wilayah Persekutuan	13.01.1994

Source: *Manual Perhutanan Jilid 1, Jabatan Perhutanan Semenanjung Malaysia, 2003.*

The other SFDs responded that they might differ in forestry practices. For example, the Johor SFD stated that the extent of status of forest royalty may differ from state to state.¹¹¹ The Selangor SFD contended that the SFDs in Peninsular Malaysia may vary in their enforcement approaches.¹¹² The Penang SFD, however, elaborated that the state of Penang is different from the other states in Peninsular Malaysia because Penang is a dynamic industrial state and most of the wood from the northern part of Peninsular Malaysia is processed in Penang. Thus, the Director of the Penang SFD contended that

¹⁰⁹ See note 30, 22 and 67.

¹¹⁰ *Ibid.*

¹¹¹ See note 4. See also Repetto, R and, Malcolm Gillis, eds., *Public policies and the misuse of forest resources A World Resources Institute Book*, (New York: Cambridge University Press, 1988), 158.

¹¹² See note 20.

they may have a different focus and emphasis, especially on forest management. Presently, the Penang SFD focuses on forest recreation because the public in Penang are demanding this forest benefit.¹¹³

In upholding the aim of standardization of forest law and policy, the SFDs in Peninsular Malaysia are applying the same forestry law and rules. All the SFDs agreed that their main references in forest law are the National Forestry Act and its Policy, the Wood Based Act. The Perlis SFD further added that conservation in detail can be found in the Forestry Manual, which underlines the best way to manage the forest and explains what foresters and loggers should do; for instance, the forester needs to monitor whether the logger has followed the guidelines provided, i.e. Selective Management System (SMS). For Perlis SFD this kind of monitoring is unnecessary as forest harvesting in Perlis is not allowed.¹¹⁴ Besides the law and rules mentioned, the Director of Johor SFD emphasized that there are twenty-four forestry-related laws and policies listed under the MC&I for all SFDs in Peninsular Malaysia to observe.¹¹⁵ The Kelantan SFD stated that the Director of the SFD needs to prepare a forest management plan every ten years¹¹⁶, and in this plan the SFD may plan for forestry management and activities depending on the respective geographical, economic and social factors.¹¹⁷

Having a considerable body of forestry laws and policies is not worthwhile if it is not possible to enforce compliance with those legal instruments. Therefore it is crucial to note that the SFD needs to ensure that all aspects of forestry practices are in accordance

¹¹³ See note 37.

¹¹⁴ See note 26.

¹¹⁵ See note 4. The related laws and policies stated under the MC&I 2002 are Federal Constitution, National Forestry Policy, 1978, National Policy on Biological Diversity, 1998, National Forestry Act, 1984, State Forest Enactments, State Ordinances related to protection of wildlife, State Forest Rules, Land Conservation Act, 1960, Environmental Quality Act, 1974, National Parks Act, 1980, Taman Negara (Kelantan) Enactment, 1938, Taman Negara (Pahang) Enactment, 1939, Taman Negara (Terengganu) Enactment, 1939, National Parks (Johor) Enactment, 1989, Protection of Wildlife Act, 1972, Aboriginal Peoples Act, 1954, Occupational Safety and Health Act, 1994, National Land Code, 1965, Water Act, 1920, Employees' Social Security Act, 1969, Workmen's Compensation Act, 1952, Industrial Relations Act, 1967, Trade Unions Act, 1967, Employment Act, 1955.

¹¹⁶ The current forest management plan is from 2006-2015. The plan is being monitored by the Head Quarter of Forestry Department of Peninsular Malaysia.

¹¹⁷ See note 22.

with the law provided. The Directors of Selangor and Perak SFDs expressed their opinion on the forest certification process by discussing the compliance with forest law and policies by all SFDs in Peninsular Malaysia. According to the Selangor SFD, MC&I and the Forest Stewardship Council (FSC) are only marketing mechanisms, not binding instruments. Nevertheless, the certification process involves the SFDs obeying the laws and policies because, if the criteria are not being satisfied, the wood cannot be traded. The Perak and Terengganu SFD further confirmed that MC&I are seen as a mechanism to enforce compliance with forest law and policies by all SFDs in Peninsular Malaysia. In regard to obeying the NFA, the Director of Selangor SFD contended that the Act must be complied with by the SFDs, especially the legal requirements, i.e. license conditions, forest crimes, EIA etc. He further opined that the most crucial aspects to consider in dealing with compliance with forest law are biodiversity, environment stabilization and sustainable economy. For the Kelantan and Terengganu SFDs, meetings would always be the platform for the SFD to be informed and notified about the progress or development of forest law and policy. The Terengganu SFD explained that, in the course of any meetings, the SFD was always being informed about compliance with laws and policies, including complying with the EIA and also the Town and Country Planning Act (TCPA).¹¹⁸ In the state of Perlis, as forest harvesting is not allowed, the EIA is not relevant, whilst the National Physical Plan (NPP), which comes under the TCPA's governance, does not refer to any forested area in Perlis. Johor SFD is more concerned with ensuring that the primary and secondary linkages of the Central Forest Spine (CFS) are gazetted as forest reserve in order to maintain the environment.¹¹⁹ In this particular piece of planning the SFD is not the only agency to provide opinion and expertise; in fact, other relevant departments and agencies can provide their opinions and proposals for the agenda. This was confirmed

¹¹⁸ See note 29.

¹¹⁹ The NPP is a plan governed by the TCPA and CFS is among its agenda. The SFD is considered as the parties to the planning involving forest therefore, not the decision maker of the planning.

by the Director of Penang SFD who stated that all related agencies cooperate on one project if the development involves various stakeholders other than forest, i.e. land, quarry, drainage, minerals or natural resources, environment etc.¹²⁰ The Kelantan SFD elaborated on the significance of the EIA process, which is not seen as obstructing development but as a method of finding ways to develop safely, taking into account the environment and economic aspects. This process also takes into consideration all opinions from various agencies related to the development.¹²¹

SAM clarified that there are TCPA and also the National Biodiversity Policy to which SFD and SAM can refer to conserve forest. The Policy acts as a biodiversity communication to CBD and every year the government issues a communication to CBD and also to Kyoto where the progress of the programs is being reported; however, this communication is not legally binding.¹²² Thus, SAM claimed that, because of the communication's legal status, there is a tendency for the state governments not to adopt this policy in their planning.¹²³

In order to ensure compliance with and observation of the requirements under forest-related law and policy, SAM highlighted that, firstly, the NFA must be revamped and all the contentious terms repealed. The categorization of forest must be made compulsory. SAM also emphasized the problem of EIA in that it only becomes involved if the coverage of area is very large. Some cases can be settled in preliminary EIA where public consultation is not required. This is because the process of preliminary EIA can be settled internally; hence, in terms of forest EIA is not helping very much.¹²⁴

¹²⁰ See note 37.

¹²¹ See note 22.

¹²² See note 7.

¹²³ *Ibid.*

¹²⁴ *Ibid.*

Besides the NFA, forestry matters could also be referred to other laws. If, for example, the NFA covers one area or plot of land, the area of land must be in accordance with a local or structure plan, and this plan covers a wider area of land compared to the NFA. Like the National Land Code, all these laws should be tied together, and the way we interpret the laws does matter.¹²⁵ SAM quotes the example of the quarry in Jerai, Kedah; this is the only case in which violation of the structure plan was challenged and brought to court. In reality, the violation of the structure plan is rampant in many places such as in the development near Bukit Cahaya Seri Alam, Selangor, where the state violated reserve forest designated in the structure plan. SAM said that the community nearby approached them and asked for advice but the case was not challenged in court.¹²⁶

Returning to the NPP, this has a non-legal binding effect compared to the effect of violation of structure plan under the TCPA. Even though the NPP belongs to a section of the Town and Country Department, unfortunately the plan is not legally binding and is thus just a mere guideline. In fact, the NPP has been beautifully mapped and this plan determines certain areas to be designated as Environmentally Sensitive Areas (ESA). The ESAs are ranked from ESA1 to ESA3. For instance, in order to develop a mining area, the NPP will identify the need for and significance of the project. After the area has been gazetted as a mining area, there will be no other mining areas even though there may be potential areas to be developed. This is because the limitation and need have been determined by the NPP. Indeed, the NPP is a very good plan but it is not legally binding, which is a problem. SAM also pointed out the case of the Ulu Muda area which is considered pivotal because it is a water catchment area that supplies water to all MADA areas in Kedah (paddy field area). About 65,000 farming families depend on this area. According to the NPP, the area is designated as ESA1 but, suddenly, a

¹²⁵ *Ibid.*

¹²⁶ *Ibid.*

development plan was proposed (highway development). This is a gross violation of the planning process because a master plan devised at the national level stated that this is a very sensitive area (ESA1). However, it is not considered a violation as the plan is not legally binding. If the NPP were legally binding, the outcome would be different. SAM believes that, should the NPP be reviewed, the revised NPP will be very bad.¹²⁷

From the above discussion and with regard to environmental law principles application, even though it has not been directly specified under the Act, it can be said that, apparently, most of the SFDs in Peninsular Malaysia have observed and practised the Environmental Principles in conservation of forest. This is indicated in the statement made by the director of the Johor SFD during the conducted interview where he stressed that the forestry department in Peninsular Malaysia has throughout its existence observed the principle of sustainable forest management (SFM) in ensuring the survival and sustainability of forest and its resources. He further stated that the said practice is underlined under the revised NFP where the provision 3.3.1 reads as follows:

The Permanent Forest Estate will be managed in accordance with the principles of sustainable management for the maximization of the social, economic and environmental benefits of the nation. Regular monitoring of the areas and contents of the forests should be done consistently and systematically.

Furthermore, the provision 3.3.4 highlights the following in ensuring the implementation of the SFM by the SFD:

To ensure sustainable management practices, the Production Forest will be conservatively harvested by selective felling and retention of adequate residual stocking for subsequent cutting cycles. All forest management plans for inland and mangrove forests must be continuously monitored and updated consistent with the principles of sustainable forest management. Similarly, forest harvesting plans, forest regeneration and rehabilitation plans must also be implemented and monitored.

¹²⁷ *Ibid.*

From the above-mentioned provisions, the principle of sustainable development has been obviously highlighted. This principle of sustainable development was only inserted during the revised edition of the policy in 1992; this contradicts the statement by the Director who claimed that the principle of sustainable development has been practised since the inception of the forestry department in the early thirties.

The principle of sustainable development was not directly stated in the former policy and this can be clearly seen in the 1978 policy which only provides methods of determining and managing Permanent Forest Estate without specifically stating the principle. The provision *inter alia* reads as follows;

...6) The Permanent Forest Estate should be managed to provide optimum production of all forms of forest produce and other benefits for the welfare of the community...¹²⁸

From the above, even though the principle is not directly expressed, the provision could be understood to express the notion of compromising between the needs of the economy and social issues.

There were responses in the conducted interviews with regard to the issue of sustainable development and management *inter alia* in order to sustain the survival of forest; most of the states have declared that there will be no more forest harvesting and clearing for the purpose of development, such as the states of Perlis and Penang. The state of Kelantan, however, stated that development, such as opening new settlements or areas that involve forest areas, is not encouraged anymore. This has been decided for the purpose of avoiding clearance of forested areas on a large scale, such as occurred with the previous establishment of FELDA and FELCRA.¹²⁹ The related Environmental

¹²⁸ See note 74.

¹²⁹ See note 22.

Principle that applies is the precautionary principle where the state has indeed taken into account the future survival and existence of the forest in its area.

(b) Jurisdictional issues of forest and land within states.

Forest and land have been distributed to be under the jurisdiction of the states. This is stated under the Ninth Schedule of the Federal Constitution. Although they are under the same jurisdiction for the purpose of administration, forest and land have different administrators: forest comes under the Department of Forestry, while land is under the Land Office.¹³⁰ Sometimes conflicts of interest arise where both forest and land are involved in development projects. Thus, it will be interesting to discover how conflicts are resolved in the case of forest conservation.

The SFDs of Peninsular Malaysia unanimously agreed that they have no difficulties in dealing with the issues of forest and land where each is governed by different laws and agencies. Opinions from related agencies are taken into consideration before arriving at any decision and the most important of these agencies have been given the opportunity to offer advice and opinions. The Kelantan SFD confirmed that related agencies involved in development projects are cooperating with and referring to one another for advice and opinion.¹³¹ Moreover, SFDs and other related agencies are governed by states' executive councils. The Terengganu SFD contended that any issues could be dealt with because there is good networking between agencies.¹³² Perlis SFD, however, considered there to be a clear demarcation between land and forest jurisdictions: the land office has its own jurisdiction in collecting land taxes whilst the SFD is responsible for collecting forest and quarry taxes; thus there are no conflicts of interest in

¹³⁰ See Shaik Mohd Noor Alam bin Hussain, "Legal Aspects of Forestry", (1983) 1 *The Malaysian Current Law Journal* 64-65. "The Constitution draws an artificial distinction between forestry and land to enable a division of legislative competence over these two matters to be made between Parliament and the state legislatures."

¹³¹ *Ibid.*

¹³² See note 29.

jurisdiction.¹³³ The Negeri Sembilan/Melaka SFD said that there is no difficulty in achieving cooperation between agencies; however, a conflict of interest exists in matters involving the project plan under the NPP, i.e. structure or local plan.¹³⁴

According to Johor and Perak SFDs, the State Economy Planning Unit coordinates any issues arising between related agencies, and such issues are subsequently raised before the National Forestry Council.¹³⁵ The Penang SFD stated that the reshuffling of officers between states was an attempt to deal with the conflict of interest issue.¹³⁶

SAM expressed quite a lengthy view with regard to the relationship between states and federal government in the matter of enforcing and monitoring the law and policy on forest conservation in Peninsular Malaysia.¹³⁷ Apparently, federal and state governments have different jurisdictions over forest and land where both are under states' jurisdiction. This is seen as a conflict of interest in the sense that most of the states are dependent on forest for revenue whilst the federal government has little interest in helping states to conserve forest. This is based on SAM's experience in requesting grants for the states to conserve forest; to date, the federal government has yet to respond. The only federal government conservation grant received by the states comes under the National Park/State Park; however, the amount is very limited.¹³⁸ SAM also observed that the issue of limited budgets offered by the federal government is not the only reason for states choosing not to gazette their forest areas as state parks. SAM believes that states' rights to utilize the land may cease as state parks are fully protected areas, and maintaining them is very expensive.¹³⁹

¹³³ See note 26.

¹³⁴ See note 67.

¹³⁵ See note 4 and 33.

¹³⁶ See note 37.

¹³⁷ See note 7.

¹³⁸ *Ibid.*

¹³⁹ *Ibid.*

In regard to the monitoring and enforcing issue, SAM observed that there are flaws and defects. Among others, there are insufficient numbers of officers in the states to monitor forest areas and the rules and procedures of the forestry department are unclear. SAM refers to the jurisdiction of the forestry department, which seems to be more concerned with controlling logging processes than conservation.¹⁴⁰ Moreover, their efforts to stop illegal logging or logging encroachment are inadequate. Even when they do control the illegal activities, they are still not focusing on managing conservation because the law does not give them the jurisdiction to manage conservation. For example, in Kuala Nerang, Kedah, rampant logging activities were discovered at the Pedu Dam and this incident was reported by the media. Unfortunately the state could only issue a compound¹⁴¹. For SAM, issuing a compound will not stop illegal logging; the issuance of compound only boosts the state's revenue and income.¹⁴² Moreover, the forestry department once made a statement about states' large compound collection from illegal logging activities but the problem of illegal logging itself still exists. SAM further argued that the only legislation which provides such jurisdiction for the forestry department to manage conservation is the National Park/State Park Act. Current data show that the state parks are outnumbered and their status as protected areas could cease at any time. To make matters worse, most of the states are not interested in gazetting their forest areas as state parks.¹⁴³

¹⁴⁰ *Ibid.*

¹⁴¹ Section 101 of the NFA: Compounding of offences (1)...the Director may compound any offence under this Act... by making a written offer to such person to compound the offence upon payment to the Director of such amount not exceeding the maximum fine for that offence within such time as may be specified in the offer (5) An offer under subsection (1) may be made at any time after the offence has been committed, but before any prosecution for it has been instituted, and where the amount specified in the offer is not paid within the time specified in the offer or within such extended period as the Director may grant, prosecution for the offence may be instituted at any time thereafter against the person to whom the offer was made.

¹⁴² See note 7. See also Rusli Mohd and Amat Ramsa Yaman, *Overview of Forest Law Enforcement in Peninsular Malaysia*, (Kuala Lumpur: WWF Malaysia, 2001) with regard to the deterrent factor for forest offenses, the offences should not be compounded but should be dealt in court. The punishment should be of maximum fine and also jail sentence.

¹⁴³ *Ibid.*

SAM also highlighted forest areas that are not entirely conserved as protected areas, suggesting that this could lead to a lack of enforcement and monitoring. Thus, the forest is more likely to be degraded.¹⁴⁴ SAM also believes that this is related to the existence of gaps in the National Forestry Act. There are lots of gaps but the most obvious relates to the categorization of forest where it is provided that the forest area is to be categorized into particular groups, i.e. research and education forest, national parks, etc. Following this proviso, it is further provided that if any forest area has not been so categorized, that forest area is deemed to be a production forest. A production forest would allow the forest to be utilized by loggers entering with permits and licenses. Compound is issued for entering forest without a license or permit but not for violation of the forest or encroachment on the protected area.¹⁴⁵

(c) The significance of the Malaysian Criteria and Indicator in curbing illegal logging

The Malaysian Criteria and Indicators (MC&I) are seen as a mechanism that underlines certain conditions for Malaysia to obtain forest certification by a third party assessor. This is done to ensure the legality of Malaysia timber and for the woods to be marketable and exported to other countries. The positive outcome of this mechanism is the curbing of illegal logging; this is verified by the Director of Selangor SFD who opined that the MC&I indirectly help in detecting illegal logging. However, he further stated that illegal logging that occurs outside the licensed area might not be detected since the mechanism only covers the licensed area.¹⁴⁶

¹⁴⁴ *Ibid.*

¹⁴⁵ *Ibid.*

¹⁴⁶ See note 20. See also Esther Chandran, *Hikers Expose Illegal Logging in Serdang*, *StarMetro* 2 July 2007.

The Kelantan SFD received MC&I certification on 18th January 2009. For them, the certification has had a positive impact on forest, especially concerning public rights in the forest. The Kelantan SFD will be audited every year thus; indirectly, the SFD maintains complete records of their works. The Kelantan SFD also agrees with the Selangor SFD that the MC&I are very effective in curbing illegal logging whilst certification is crucial for woods to be exported compared to the previous experience without MC&I.¹⁴⁷ The Kelantan SFD also gives the example of the most efficient country, Ghana, in utilizing the certification process.

In the case of *Dato' Malik & Salemah Enterprise v. Mohd Azmi bin Mohd Ali dan lain-lain*¹⁴⁸, the plaintiff claimed that his workers were illegally detained by the first defendant, who is a police officer. Prior to the arrest, the first defendant received an order from the Chief of the Kelantan State Criminal Investigation Department relating to timber-stealing activities in Gua Musang Kelantan area. The judge held that the first defendant is a police officer and he has the power to arrest without a warrant anyone who commits a 'seizable offence if reasonable complaint has been made or credible information has been received or a reasonable suspicion exists.'¹⁴⁹ A preliminary investigation by the first defendant showed that only block 1 of the logging area was marked with permission or logging license signage by the forestry department, and there was no such signage for other logging areas (block 2-5). Thus, the judge believed that the first defendant had a reasonable suspicion that illegal activities were occurring in that particular logging area involving the plaintiffs in this case, and that he had also acted *bona fide* in exercising his duty as an investigating officer in Kota Bharu Contingent Head Office (IPK) Criminal Investigation Department. Thus, in this case we can see how justice prevails in order to protect forest from being diminished by profit

¹⁴⁷ See note 22.

¹⁴⁸ *Dato' Malik & Salemah Enterprise v. Mohd Azmi bin Mohd Ali dan lain-lain* [2009] 9 MLJ 674.

¹⁴⁹ S23(i)(a) of the Criminal Procedure Code.

seekers. It shows that, besides MC&I, there is another mechanism which occasionally works and is a practical way of combating forest encroachment.

The Director of Terengganu SFD and the Assistant Director of Perak SFD, however, stressed the role of the SFD itself in curbing illegal logging where adherence to the MC&I is not an issue. The Assistant Director of Perak SFD said that the SFD will be seen to have failed if the problem of illegal logging cannot be controlled.¹⁵⁰ For Perlis and Penang SFDs, since there is no forest harvesting in their states, the MC&I do not apply to them. However, the Director of Penang SFD opined that the MC&I are a good mechanism.¹⁵¹

The Director of Johor SFD elaborated on measuring the seriousness of illegal logging, identifying three degrees of illegal logging: Firstly, forest clearance for agricultural activities; secondly, breach of license conditions; and, lastly, entering forest without a license. Thus, the SFD takes into account the above-mentioned degrees of illegal logging before taking legal action. Nevertheless, the Director of Johor SFD stated that the amount of illegal logging in Johor is very small.¹⁵²

SAM elaborated on MC&I as a part of the process to upgrade the Malaysian certification of forests.¹⁵³ At international level, there is the Forest Stewardship Council (FSC) which governs forest certification, although Malaysia has introduced its own certification scheme, i.e. the Malaysian Timber Certification Council (MTCC). SAM further enlightened our discussion with regard to the rejection of the MTCC by the social NGOs because of the failure to take into consideration the social impact. SAM

¹⁵⁰ See note 33.

¹⁵¹ See note 37.

¹⁵² See note 4.

¹⁵³ See note 7.

observed that Malaysia wanted its own certification scheme to avoid the stringent international approach to social impact in terms of forest certification scheme. For instance, in the case of land acquisition, social factors are not considered by the MTCC.¹⁵⁴ Recently, a few new agreements have been reached, such as the Forest Law Enforcement, Governance and Trade (FLEGT), an agreement between the Malaysian government and the European Union (EU). It introduces new methods such as MC&I in order to strengthen Malaysia's certification scheme. Unfortunately, the first issues or demands by the social NGOs have still not been taken into consideration by the government, i.e. native customary rights in Peninsular Malaysia and the social impact of development. SAM, however, could not see how the guidelines (MC&I) would help in either enabling legal logging for conservation of forest or curbing illegal logging.¹⁵⁵

Thus, MC&I are a form of guidelines for forest conservators to obey and observe in order for the state to be granted a forest certification; however, the issue of public involvement in forest has yet to be resolved. Nevertheless, indirectly the MC&I have been seen as a mechanism to control illegal logging.

5.2.1.4 Multipurpose-Use of Forest

Forest in Peninsular Malaysia, especially the PFE, has been allocated for multiple purposes to serve the NFP's statement. The NFP clearly states the following;

2.2.1 To dedicate as Permanent Forest Estate sufficient areas strategically located throughout the country, in accordance with the concept of rational land use. The Permanent Forest Estate will be managed and classified under four major functions:

2.2.1.1 PROTECTION FOREST for ensuring favourable climatic and physical conditions of the country, the safeguarding of water resources, soil fertility, environmental quality, preservation of

¹⁵⁴ *Ibid.*

¹⁵⁵ *Ibid.*

- biological diversity, and the minimization of damage by floods and erosion to rivers and agricultural lands.
- 2.2.1.2 PRODUCTION FOREST for the supply in perpetuity, at reasonable rates of all forms of forest produce which can be economically produced within the country and are required for agricultural, domestic, industrial purposes and for export.
- 2.2.1.3 AMENITY FOREST for the conservation of adequate forest areas for recreation, ecotourism and public awareness in forestry.
- 2.2.1.4 RESEARCH AND EDUCATION for the conduct of research, education and conservation of biological diversity.¹⁵⁶

From the above provisions, forest in Peninsular Malaysia can be said to be serving multiple forest functions. The SFD, at its own discretion, can identify and specify allocations in its forest planning. The idea of categorizing forest for various purposes is seen as significant in terms of maximum utilization of forest resources to benefit all of its beneficiaries. Thus, the following discussion investigating this theme on the basis of the interviews is constructed to assess the realization of NFP's statement on multipurpose use of forest.

(a) Implementation of Section 10 of the National Forestry Act by the SFD

The NFP's statement has been appreciated by section 10 of the NFA which provides the following

- (1) The Director, with the approval of the State Authority, shall, by notification in the Gazette, classify every permanent reserved forest under one or more of the following classifications which shall be descriptive of the purpose or purposes for which the land is being or intended to be used: (a) timber production forest under sustainable yield; (b) soil protection forest; (c) soil reclamation forest; (d) flood control forest; (e) water catchment forest; (f) forest sanctuary for wild life; (g) virgin jungle reserved forest; (h) amenity forest; (i) education forest; (j) research forest; (k) forest for federal purpose.¹⁵⁷

From the above provision, it is clear that the Directors of SFDs in Peninsular Malaysia are responsible for categorizing their respective forests under any classification listed therein. Section 10 reflects the multipurpose use of forest in that forest could serve more

¹⁵⁶ See note 74.

¹⁵⁷ Laws of Malaysia The National Forestry Act 1984 (Act 313).

than one function; i.e. a section of forest could be used for recreational purpose and at the same time function for research and education purposes.

The Director of the Selangor SFD responded to this issue and elaborated that, in order to implement this particular provision, each SFD has to identify and determine the functions of their forest. He further commented that other countries do not have such large areas of forest, whereas Malaysia still possesses 47% of its forest cover. He also explained about the meaning of Permanent Reserve Forest (PRF): ‘permanent’ here refers to the land use concept; i.e. forested land is permanently intended for forest use whereas ‘forest use’ is based on the existing act and policy.¹⁵⁸

The judge in the case of *Roland Chong Yew Soon & Ors v Majlis Perbandaran Subang Jaya & Anor*¹⁵⁹ decided to strike out an order of *certiorari* to quash the decision of the Subang Jaya Municipal Council approving the development of a proposed graveyard and crematorium at the Ayer Hitam Forest Reserve on the ground of the applicant’s failure to make application for leave to the Attorney General’s chamber¹⁶⁰. Nevertheless, the judge in this case made a humble submission regarding the interest of justice, suggesting to the applicant’s counsel that he withdraw the application with liberty to file afresh in order to comply with O 53 of the Rules of the High Court. Thus, in this particular case it can be clearly seen that it is not an easy task to protect forest reserve areas from development proposals. To quash an order of public authority is quite a lengthy process implicating the court’s rules and procedures.

The Kelantan SFD has successfully categorized its forest according to specific defined functions, i.e. water catchment area, development, etc. For Kelantan SFD, the

¹⁵⁸ See note 20.

¹⁵⁹ *Roland Chong Yew Soon & Ors v Majlis Perbandaran Subang Jaya & Anor* [2006] 6 MLJ 472.

¹⁶⁰ O 53 of the Rules of High Court.

overlapping functions in forest categorization will not alter the existing function of each respective forest area but the functions are brought together in particular sections of forest.¹⁶¹ The same is true for the Perlis SFD and the Negeri Sembilan/Melaka SFD, where the forest has been categorized according to its potential purposes, i.e. categories of research, education, water catchment, etc. The Negeri Sembilan/Melaka SFD explained that, after the identification of forest category, they would mark and colour the area according to the function so categorized. This is a good approach compared to the earlier approach where no such forest categorization was initiated.¹⁶²

The Assistant Director of Perlis SFD further explained about the purpose of the forest categories of research and education; these categories are intended to encourage the public to participate in forest knowledge and learning. If the forest is so categorized, it will be much easier for the public to explore and learn about the forest and its nature. He also elucidated about the significance of the establishment of the state park as a protected area. He stressed that the state park is purposely established for water catchment; therefore it is crucial to gazette this area as water catchment.¹⁶³ This is considered important because the effect of the gazette is to prohibit logging activities in that particular area. Nevertheless, the researcher believes that gazetting part of the forest as a state park is not sufficient to meet the purpose of preserving the water catchment area; to preserve and protect the water catchment area it is vital to gazette the area as a protected area. Another issue that always impedes the state in establishing a state park is the budgetary constraint, as managing a state park requires a higher budget.

The Director of Terengganu SFD opined that to implement section 10 of the NFA does not mean categorizing forest under all listed functions. The SFD should identify the best

¹⁶¹ See note 22.

¹⁶² See note 67.

¹⁶³ See note 26.

practices of their forest in order to serve the purposes.¹⁶⁴ The Director of Perak SFD explained that they have double-gazetted the forest reserve when more than one function is identified in a section of forest.¹⁶⁵ The Director of Penang SFD elaborated on their practices of forest categorization. Their approach is more towards educational, industrial and recreational purposes and they also seek to protect the forest for water resources such as in Telok Bahang, Durian Tunggal and Timah Tasoh.¹⁶⁶ This is also true for Johor SFD where specific areas have been earmarked according to section 10 of the NFA.¹⁶⁷

With regard to the comprehensiveness of section 10 of the NFA, all SFDs totally agreed that the provision has been beautifully designed to meet the needs of multiple use of forest. Nevertheless, the Assistant Director of Perak SFD said that this particular section will be revised to include new elements such as biotechnology, etc.¹⁶⁸ The Directors of the Selangor and Johor SFDs contended that section 10 of the NFA and its policy must be read together in order to derive the real meaning of multiple use of forest. They also argued that the purpose of establishing this section is to ensure the sustainability of forest through the multiple use of forest.¹⁶⁹ The Director of Penang SFD defined protective forest as including everything related to the protective function. Therefore, section 10 is sufficiently conclusive.¹⁷⁰ The Director of Terengganu SFD gave as an example the function of forest as protected area, noting that the logging of 32 species of trees has been prohibited for the protection of birds and animal habitats.¹⁷¹

¹⁶⁴ See note 29.

¹⁶⁵ See note 33.

¹⁶⁶ See note 37.

¹⁶⁷ See note 4.

¹⁶⁸ See note 33.

¹⁶⁹ See note 20 and 4.

¹⁷⁰ See note 37.

¹⁷¹ See note 29.

SAM took a different view on this particular matter, stating that they had requested the state government to categorise the forest but had yet to witness any serious initiative towards it.¹⁷² The state of Perak has instead initiated the multiple use of forest but it is still unsatisfactory. The other states have taken no initiatives at all to categorise their forests, not even the most important category of water catchment areas; the other categories such as research forest, educational forest or recreational forest are not as important. The state of Penang is the only state in Peninsular Malaysia that gazettes its forest as water catchment areas; however, this is insignificant as Penang owns a small area of forest compared to the state of Selangor where the Hulu Langat and Ampang forest areas are rich in ancient forest. Nevertheless, these areas have yet to be categorized as multiple use of forest.¹⁷³ Pertaining to the issue of section 10 of the NFA, SAM observes that section 10 is a very simplified definition from which several matters have been omitted. Even the NFA should be reviewed; this has been suggested for many years and lots of flaws need to be amended, but the government has not taken any serious action.¹⁷⁴

From the above discussion, the provision set out under the section 10 is vital in order to see the preference of forest category. The category of production forest is the first of all the categories to be listed, thus reflecting that this category is the most vital. This notion is supported by the allocation of PFE/VJR (protective) at only 1.90 million ha as compared to production forest at 2.40 million ha in 1992.¹⁷⁵ Nevertheless, area for protective forest has been increased to 2.92 million ha and productive forest is reduced to 1.99 million ha in 2011.¹⁷⁶ Furthermore, besides the first category of production forest there is also a category called forest for federal purposes. This however, shows

¹⁷² See note 7.

¹⁷³ *Ibid.*

¹⁷⁴ *Ibid.*

¹⁷⁵ M.Jill Blockhus, et al., ed., *Conserving Biological Diversity In Managed Tropical Forests*, (IUCN/ITTO, 1992), 51.

¹⁷⁶ Official Website Forest Department Peninsular Malaysia, *Maklumat Perangkaan Hutan Bagi Tahun 2011*, 18 Dec. 2012 <<http://www.forestry.gov.my/index.php/ms/pusat-sumber/statistik.html>>.

that the dominant power of the state governments' authority over these portions of the PFE outweighs other categories of forest that serve the protection function. It also suggests that the authorities are not serious about protecting portions of protected forest area as their primary concern is forest produce, not forest protection.¹⁷⁷

(b) The Development of the Term 'forest' in the Forestry Law and Policy

The term 'forest' has been developed extensively since the 1930s when forest was categorized and termed as productive and unproductive forest. This indicated a situation where forest was considered as a product that is either productive or unproductive without considering its significant function of stabilizing the environment. Thus, the question of preservation at that time is believed to have been neglected. Hence, the forest was logged without limitations. In 1978, when the National Forestry Policy was passed, the terms 'protective', 'productive' and 'amenity forest' were introduced. The terms had been expanded to address the meaning of forest in terms of its sustainable development, taking into consideration economic, social and environmental aspects. During the amendment of the National Forestry Policy in 1992, another two terms - research and education - were added to protective, productive and amenity forests.

The Director of Selangor SFD commented on this development of the meaning of forest, noting that, in the early stages of developing the country, forest harvesting was the main resource to curb poverty. He agreed that, in the 1930s, there was no emphasis on environmental aspects of forest whereas in 1990 a large amount of forested land had to be developed for agricultural purposes i.e. FELCRA, FELDA, etc.¹⁷⁸ The Assistant Directors of the Kelantan and Perak SFDs said that this issue is related to gradual

¹⁷⁷ See also K. Kumari, *Is Malaysian Forest Policy and Legislation Conducive To Multiple-Use Forest Management?*, FAO Corporate Document Repository, <<http://www.fao.org/docrep/v7850e/v7850e11.htm>>. The author stressed that the environmental service roles of forest is still underemphasized where there is a preferable of interpretation of forest management for timber purpose.

¹⁷⁸ See note 20.

changes according to a new era in forestry approaches.¹⁷⁹ It was not until 1990 that there arose an awareness of forest for the purpose of research and education and a realization that forest was not just for protection and harvesting. The role of forest was expanded for the benefit of the country and society. Thus, the role of forest has developed according to the changing eras. They also opined that Malaysia has been pressured by the West to refrain from developing and harvesting the forest for the sake of the global environment.¹⁸⁰

The Assistant Director of Perlis SFD elaborated on the development of the term ‘forest’, noting that in the 1930s there was no interest in research and education forests. In 1978 the Selective Management System (SMS) was introduced and forest has been systematically managed compared to the previous Malayan Uniform System (MUS). Under the MUS all trees were harvested regardless of whether they were mother trees or protected trees, etc. In 1992, when the National Forestry Policy was amended to include research and education functions of forest, the Perlis SFD started to require forest researchers to apply for permits.¹⁸¹

The Terengganu SFD also agrees that the development of the term forest is the outcome of gradual changes in forestry. Its Director explained that, previously, sustainable referred to timber resources but now sustainable refers to multiple use of forest.¹⁸² The Assistant Director of Perak SFD added that the amendment of the National Forestry Act in 1992 was for the purpose of deterrence when a higher fine of RM500,000 and a term of imprisonment of 20 years were imposed in order to combat forest encroachment.¹⁸³

¹⁷⁹ See note 22 and 33.

¹⁸⁰ *Ibid.*

¹⁸¹ See note 26.

¹⁸² See note 29.

¹⁸³ Phamplet Jabatan Perhutanan Semenanjung Malaysia, Kuala Lumpur, *Kategori 1-3 Hukuman Perbuatan-perbuatan yang dilarang di dalam Hutan Simpan Kekal dan lain-lain kesalahan hutan dan penalty jika disabitkan kesalahan di bawah Akta Perhutanan Negara 1984.*

The Director of Penang SFD said that the development of the term forest is a matter of awareness and upgrading.¹⁸⁴ The Director of Johor SFD, however, clarified that, according to Chapter 3 of the Forestry Manual, the term only differs in its appearance; thus it is not related to the SFDs' methods of managing forest.¹⁸⁵

With regard to the changing of the term forest in the forestry law and policy, SAM agrees that the definition of forest is an improvement on the earlier version. The problem is that, although the policy is indeed well-defined, it has not been implemented. Hence, most of the forest is being degazetted and much of it has been lost.¹⁸⁶

(c) The Role of Forest Conservator in the Midst of Development

The forested area in Peninsular Malaysia has decreased in size; it was reported that, in 2006, there were 5.91 million ha of forested area¹⁸⁷ and this figure had decreased to 5.81 million ha by 2011.¹⁸⁸ Thus, 10,000 ha have been degraded within five years. This could be considered a major loss to Peninsular Malaysia because, with its small total area of forest, it is doubtful whether the forest can be sufficiently replaced as there is no more forested land to act as a substitute.

The percentage of forest areas in states of Peninsular Malaysia was reduced to serve the need of mixed development, i.e. industrial, residential and agricultural areas. Thus, the role and function of the SFDs as conservators of forest seem to decrease with the depletion of forest. The Director of Selangor SFD commented on this issue, stating that, in the interests of national development, part of the forested land had to be developed for agricultural purposes and part of it for forestry usage. He further stressed that

¹⁸⁴ See note 37.

¹⁸⁵ See note 4.

¹⁸⁶ See note 7.

¹⁸⁷ See note 23.

¹⁸⁸ See note 176.

Selangor would retain 30% of its permanent reserve forest for the purpose of protection. He also said that the SFD plays a big role even though the quantity of forest is decreasing; i.e. the role of the SFD in retaining forest areas in rapidly developing residential areas is vital in order for the remaining forest to serve the function of stabilizing climatic conditions.¹⁸⁹ This statement was confirmed by the other SFDs in Peninsular Malaysia. The Kelantan SFD also believes that the role of the SFD cannot be judged according to the size of the forest but must be seen as managing the state resources or revenues.¹⁹⁰ The Negeri Sembilan/Melaka SFD stressed that the role of the SFD must be viewed from an economic angle.¹⁹¹ The Director of Terengganu SFD did not comment further, opining that the role of the SFD depends on the decision of the State Executive Council.¹⁹² The Director of Perak SFD explained that, besides issuing permits and licenses for the timber yield, the role of the SFD is to ensure a good balance between economy, society and environment to attain sustainable forest management.¹⁹³ Nevertheless, the role of Penang and Perlis SFDs is still the same as other forest conservators, despite their small percentages of forest area and the absence of forest harvesting activities in their respective states. Moreover, they indeed have extra roles compared to other SFDs. For example, in Perlis the monitoring number of orchards and quarries is regarded as an additional role for the SFD. As for Penang, besides monitoring quarries and forest farming, the SFD is currently in the process of planting more trees in order to increase the size of the forest reserve.¹⁹⁴

Foresters, however, are not happy with the rapid development, especially in the urban area. Therefore they only provide the government with forestry advice and expertise. The government will receive advice on the need for forest conservation, its effect and

¹⁸⁹ See note 20.

¹⁹⁰ See note 22.

¹⁹¹ See note 67.

¹⁹² See note 29.

¹⁹³ See note 33.

¹⁹⁴ See note 37 and 26.

the implications of developing the forest. This has been considered by the Director of Selangor SFD. He also said that Malaysia indeed easily fulfills the international target, which is 10% of the most protected ecosystems including marine and coastal life. He further stated that Malaysia absolutely exceeded the aim of 50% standard forest coverage. Nevertheless, he said that the world standard for forest coverage is only a guideline. It is more important that SFDs aim to safeguard the national and public interest.¹⁹⁵

The Assistant Director of Kelantan SFD averred that there will be no further opening of FELDA. However, Kelantan has started its new project of establishing Lojing which involves more agricultural activities, such as in the Cameron Highlands.¹⁹⁶ For the time being, Perlis SFD only plans to protect the forests. The SFD does not agree with any rapid development and requires to be persuaded of the relevancy of and need for the development.¹⁹⁷ The Terengganu and Perak SFDs have no standard of forest cover although the Terengganu SFD is hoping for zero conversion of its forest reserve.¹⁹⁸ The Penang SFD does not recommend rapid development, especially within the urban areas, as it may affect the green lung.¹⁹⁹ The Johor SFD stressed the interrelation between economy, society and environment while maintaining that the SFD has applied a holistic approach towards forest since the earlier times. Its Director also explained that it has been agreed that there will be no excision of forest reserve for agricultural activities in Johor.²⁰⁰

Basically, forest that has been chopped down is not regarded as forest. SAM believed that this forest no longer served its function as its resources had almost been destroyed.

¹⁹⁵ See note 20.

¹⁹⁶ See note 22.

¹⁹⁷ See note 26.

¹⁹⁸ See note 29 and 33.

¹⁹⁹ See note 37.

²⁰⁰ See note 4.

Malaysia saw no value in forest except for timber. In fact medicinal, research and even recreational purposes have their own value and all these purposes have been internationally recognized.²⁰¹

SAM is not quite sure what has been underlined by the international standard as Malaysia's green or forest coverage percentage may be higher but the percentage of ancient and virgin forest in Malaysia is still very low.²⁰² SAM was also uncertain whether the well-managed forest and the forest biodiversity are disappearing because of the development encroachment. Nevertheless, SAM believes that, even though it is a forest, the forest has no value at all. In SAM's opinion, the government has to revamp the policy on forest conservation. The NFP must be reviewed and linked with the NPP and the structure plan. Overall, proper planning is vital as, in SAM's view, the government does not seem to have made any future plans regarding areas to be conserved and areas to be developed. The government has seven more refinery plans and the purpose is not comprehensible as SAM has found that the mangrove forest will be affected.²⁰³

Forest serves multiple functions, thus fulfilling the provision of section 10 of the NFA. The term 'forest' is progressing and developing towards the enhancement of forest benefits. Nevertheless, the extent to which this provision really works is still debatable. Every SFD needs to categorize its forest in order to serve the purposes. The process of forest categorization does not clarify the extent to which forest categories can be easily excised. Nevertheless, a number of forests have been successfully categorized as water catchment areas such as in Penang- Telok Bahang, Durian Tunggal and Timah Tasoh. There is also a need for stringent rules and procedures regarding rapid development

²⁰¹ See note 7.

²⁰² *Ibid.*

²⁰³ *Ibid.*

which could affect forest environments as forest conservators will only be able to provide technical advice to the state governments pertaining to forest benefits and will have no power or jurisdiction to prevent it from disappearing.

5.2.1.5 Financial, technical and information technology assistance in forest conservation

In ensuring the smooth running of forest conservation, the SFDs should be equipped with financial, technical and information technology assistance. Nevertheless, the SFDs in Peninsular Malaysia have experiences and practices in this particular area, as revealed in the following discussion.

(a) Financial and technical assistance in forest conservation.

All SFDs of Peninsular Malaysia stated that financial assistance for forest conservation in every state is arranged at the federal level. Hence, the Forestry Department of Peninsular Malaysia in Kuala Lumpur is in charge of the distribution of financial assistance received by all states in Peninsular Malaysia. The Selangor SFD elaborated that the headquarters of the forestry department in Kuala Lumpur arranges and manages financial aspects of projects including international-level cooperation.²⁰⁴ The Selangor, Kelantan and Terengganu officials further explained that, normally, the SFD would only provide forest sites for research, or headquarters itself would select sites in any states of Peninsular Malaysia that suited the project.²⁰⁵ This was confirmed by the Perak SFD, its Director elaborating that, previously, Perak SFD received technical assistance in the form of research. He further explained that financial assistance also comes in the form of allocation for forest development, for instance payment of cess by concessionaires,

²⁰⁴ See note 20.

²⁰⁵ See note 20, 22 and 29.

Forest Development Fund Group/ *Kumpulan Wang Amanah Pembangunan Hutan* and also government warrants for employment.²⁰⁶ The Negeri Sembilan/Melaka SFD had established a research forest which received cooperation from Japan, the Forest Research Institute of Malaysia (FRIM) and the University Putra Malaysia (UPM). The Negeri Sembilan/Melaka also stated that FRIM gives technical and financial assistance. The SFD also received technical assistance from the Malaysia Timber International Bodies (MTIB).²⁰⁷

The Penang SFD said that they had previously received financial assistance from international agencies, i.e. DUNCED and FAO. The Director of Penang SFD further elaborated that these international bodies gained benefits by accessing and managing states' forest resources. He also stated that the Penang SFD received technical assistance from the federal level in preparing forest inventories.²⁰⁸ Nevertheless, the Director of Johor SFD claimed that Johor had never received assistance from developed countries. He contended that, since 1901, the SFD has applied sustainable forest management.²⁰⁹ Perlis SFD felt that there is always enough finance for reforestation because Perlis is not involved in forest harvesting or SMS. The Assistant Director of Perlis SFD observed that the teak *karas (gaharu)* and *jarak* (for biofuel) plantations contribute to revenues and the income allocated to forest activities.²¹⁰

When discussing the financial and technical assistance provided by developed countries to curb the problem of the depletion of forest, SAM refers to a mechanism for controlling the emission of carbon under the Kyoto Protocol called carbon trading. Through this mechanism, some countries tend to adopt certain areas in their own

²⁰⁶ See note 33. See also Shaik Mohd Noor Alam bin Hussain, "Legal Aspects of Forestry Part II", (1983) 1 *The Malaysian Current Law Journal* 112.

²⁰⁷ See note 67.

²⁰⁸ See note 37.

²⁰⁹ See note 4.

²¹⁰ See note 26.

country or other countries for the purpose of forest conservation.²¹¹ This has also been practised under the CBD (the Clean Development Mechanism). However, SAM felt that this financial and technical assistance did not in fact resolve any problems because carbon trading actually allows the developed countries to continue salving their conscience and at the same time seemingly conserve areas in other countries. In reality, it does not stop the quantity of emissions and countries continue to release carbon. In fact, the practice is not being fully operated, as a balance between the emissions and protection must be assured. Perhaps only 1% of emission control is in operation but there are still lots of disruptions. This situation is out of control and in fact is simply a type of public relations where some countries are helped by the developed countries to practise such a mechanism, especially in carbon trading.²¹² SAM further explained that Malaysia itself has not adopted any policy on carbon trading although a few developed countries have adopted areas in Sabah and Sarawak to practise this mechanism of carbon trading, i.e. to assist in rehabilitation of forest and protection of areas, assuming that these activities are carbon trading practices. In this particular matter, they deal directly with the states of Sabah and Sarawak. Their manner of practising the mechanism may be appropriate in Sabah and Sarawak because these states are governed by their own forest law. But SAM is not sure in terms of the legal status of the area. Basically, SAM does not agree with the practice and requests that any developed country that intends to practise such an approach, i.e. carbon trading, should first rehabilitate within their country. SAM gives the example of Denmark which only possesses 3% of forest cover but intends to rehabilitate other countries. Of the 3% of forest cover in Denmark, 0.5% is ancient forest and the remainder is secondary forest.²¹³

²¹¹ See note 7. See also Foo Yee Ping, "Our Right To Convert Forests Malaysia Pushes For More Development", *The Star*, 26 Sept. 2007.

²¹² *Ibid.*

²¹³ *Ibid.*

(b) Information Technology Assistance in Monitoring Forest Conservation

Information technology and computerized mapping are effective in helping the SFD, especially in monitoring the loss of forest. The technology is accurate and fast compared to previous methods of forest monitoring. In the past, the SFD measured the land manually, which was expensive and time-consuming. This was explained by the Director of the SFD of Selangor.²¹⁴ The Kelantan SFD, which has utilized the Geographic Information System (GIS) function since the 1980s, also agreed about the accuracy of the technology. This digitized form of forest monitoring is very helpful in monitoring forest changes. Using GIS, it is very easy to detect the exact location of damaged forest.²¹⁵ The Director of Johor SFD asserted that the Forestry headquarters has cooperatively established Forest Monitoring Using Remote Sensing (FMRS) with the Ministry of Science, Technology and Innovation (MOSTI) for the purpose of monitoring track changes in its forested area. Besides that, MACRES, a local private company in the field of Remote Sensing and GIS technology, also provided its services for forest monitoring in Malaysia.²¹⁶ The Director of Terengganu SFD elaborated further on current information technology in regard to forest, stating that the technology for forest monitoring has developed rapidly. The current technology is Radio Frequency Identification (RFID) which is still in the research stage. Other mechanisms for forest monitoring are mobile cells, digital cameras, hyper spectral, Google and GIS. Examples of previous technology include heli-pictures, infra-red, photo geometry, aerial photos, remote sensing, satellite (radar base/visible base) and non-hyper spectral. These past technologies were unsatisfactory because the information was received piecemeal or was not integrated.²¹⁷

²¹⁴ See note 20.

²¹⁵ See note 22.

²¹⁶ See note 4.

²¹⁷ See note 29.

Nevertheless, the Perlis SFD said that all this monitoring of forest activities in Perlis was conducted by the headquarters in Kuala Lumpur. Compared to GIS, the satellite images took eight days to reach the SFD, which was rather late to detect theft in the forest.²¹⁸ Perak SFD stated that the technology basically helps even though it was not possible to arrest the forest criminals red-handed.²¹⁹ The Director of Penang SFD expressed his concern about the inadequate number of staff with information technology knowledge. He also shared his experience on the main differences between previous and present methods of receiving information on land changes, opining that, with the current technology, prompt action could be taken.²²⁰

SAM observed that the technology has not been seen to be utilized. Although research into this technology has been started by several universities, it is still not adopted in practice. There is also research on land uses and changes, and mapping impact, but SAM sees no opportunity for this research to be attached to the policy. SAM has been involved at the state and national planning levels (very closely monitored) in conservation of forest; however, nothing pertaining to this research finding has been put into practice.²²¹

Financial and technical assistance is coordinated by the headquarters of the forestry department in Kuala Lumpur. Thus, headquarters play a large role in distributing this assistance in order for all SFDs to utilize the benefits from it. Each state has its own nature and geographical forest factors, and the headquarters need to ensure that distribution is fair for all SFDs. A lot of research has been conducted by the higher learning institutions, i.e. Universiti Putra Malaysia (UPM), Universiti Malaya (UM),

²¹⁸ See note 26.

²¹⁹ See note 33.

²²⁰ See note 37.

²²¹ See note 7.

etc. on the forest monitoring system. Hence, the government must try to adapt and make use of it; otherwise, it will be insignificant. Research on Information Technology should also be optimized by the SFD in order to produce the best outcome in monitoring changes in forest coverage.

5.3 Comparison of forest profiles in State Forestry Departments of Peninsular Malaysia

This particular section discusses forest profiles between states in Peninsular Malaysia in order to see different forest development and situation in Peninsular Malaysia. The comparison of forest profiles in 2006²²² and 2007²²³ between states in Peninsular Malaysia is significant to prove the premise of the discussion.

From the attached forest profiles, it is obvious that the states of Pahang, Perak, Kelantan, Terengganu and Johor possess a large amount of forest coverage compared to the other states in Peninsular Malaysia.²²⁴ The large forest areas are indeed due to the states' large land areas, especially Pahang, the biggest state in Peninsular Malaysia. Nonetheless, this study has found that the states' ability to sustain this large forest coverage is a matter of concern.

Appendix I (a-k) of the thesis shows a clear image of the forest coverage according to the states in Peninsular Malaysia based on the National Forest Inventory. The forest inventory, which has been conducted four times since 1970²²⁵, shows how the forest coverage has been reduced. Most of the forest coverage, especially in PRF, has been cleared for the purpose of logging under the SMS practice. It should be noted that it

²²² Peninsular Malaysia, Forestry Department, *Annual Report 2006*, (Kuala Lumpur: Forestry Department, Peninsular Malaysia, 2006), 51-62. See Appendix VI.

²²³ Peninsular Malaysia, Forestry Department, *Annual Report 2007*, (Kuala Lumpur: Forestry Department, Peninsular Malaysia, 2007), 69-80. See Appendix V.

²²⁴ See Appendix V and VI.

²²⁵ The First National Forest Inventory (1970), The Second National Forest Inventory (1981), The Third National Forest Inventory (1990) and The Fourth National Forest Inventory (2002).

would take thirty years or more for the logged-over forest to return to its original condition. Nonetheless, the SMS practised by the SFD is at least reducing the major impact of forest loss. However, it is still uncertain whether the decision of the SFD to open larger areas for logging in PRF can be considered a matter of environmental concern.²²⁶ Besides the practice of SMS, other methods considered as having an impact in reducing forest loss and damage include Reduced Impact Logging (RIL), Directional Felling and Helicopter-Logging²²⁷. On the other hand, logging is not the only reason for forest clearance; forest conversion to permanent non-forest land use is found to be main reason for forest loss.²²⁸

Besides the forest inventory, a decline in forest coverage can also be seen in the forest profile of the Annual Report by the Forestry Department of Peninsular Malaysia. A simple comparison between the forest profiles in the reports of 2006²²⁹ and 2007²³⁰ is conducted in order to establish the correlation between the deterioration of forest and forest conservation practices according to each state in Peninsular Malaysia. It can be seen that, within a year, the number of hectares of Permanent Reserve Forest (PRF) in Pahang has decreased from 1,519,501 ha to 1,484,099 ha; this clearly exceeds the annual coupe²³¹ set out under the Forest Management Plan prepared by the Director of the SFD, thus indicating that a certain amount of PRF has been excised. Other states which have encountered a decline in PRF are Selangor, Negeri Sembilan and Melaka, as can be seen in Appendix VIII. The state of Pulau Pinang, however, has a different result and approach compared to other states in Peninsular Malaysia as it can be seen that the

²²⁶ See Chapter 2, Para 2.3.1 3.

²²⁷ The Friends of Ulu Muda voiced concerns about helicopter logging, which is considered as environmentally friendly. This method of logging is found to be expensive and dangerous and also contribute to more forest damage in the process of developing 400km of road through the 120,000 hectares of forest. See more in 'Stop proposed Ulu Muda heli-logging', 10.6.2003, 28.6.2012 <<http://www.malaysiakini.com/letters/25460>>. See also Thompson, I, et al., *Review of the Status and Trends of, and Major Threats to, Forest Biological Diversity*, (Canada: Secretariat of the Convention on Biological Diversity, 2002), 15.

²²⁸ See Chapter 2, Para 2.4. See also Thompson, I, et al., *Review of the Status and Trends of, and Major Threats to, Forest Biological Diversity*, (Canada: Secretariat of the Convention on Biological Diversity, 2002), 18.

²²⁹ See note 222.

²³⁰ See note 223.

²³¹ Annual logging coupe for Pahang SFD is 8,330 ha (the largest number of hectares opened for logging in 2007 of all states of Peninsular Malaysia).

PRF in Pulau Pinang has increased from 5,434 ha in 2006 to 6,908 ha in 2007.²³² This effort should be applauded because, although development is currently being prioritized by federal and most state governments, the state government and the SFD of Pulau Pinang have made a great effort to sustain their forest coverage. This practice should perhaps be followed by other states and SFDs in Peninsular Malaysia. The practice was supported by the Director of SFD of Pulau Pinang during the conducted interview. He has expressed his enthusiasm for growing more forest coverage by planting more trees. This effort has been a collaboration with the University of Science of Malaysia in Pulau Pinang. The effort could be regarded as having a two-pronged objective, namely the enhancement of forest coverage quality and the dissemination of forest knowledge to the public by the SFD. Hence, this could create a public awareness about forest conservation in Peninsular Malaysia.²³³ This approach by the SFD of Pulau Pinang can be considered as taking into account the Environmental Law principle of a precautionary approach even though it is not directly mentioned.

The forest harvesting practices of the SFDs in Peninsular Malaysia can be seen from the area opened for logging in the PRF. As shown in Appendices V and VI, the SFDs of Perak, Terengganu, Kedah, Negeri Sembilan and Melaka have increased their area for logging in the PRF. The area of PRF opened for logging in the state of Negeri Sembilan increased tremendously from 3,188 ha in 2006 to 8,746 ha in 2007. Even more disappointingly, the state with the lowest amount of forest coverage, Melaka, is failing to maintain its forest coverage; on the contrary, it has increased the area of PRF designated for logging purposes.²³⁴ During the interview with the Assistant Director of Perlis SFD, he said that forest harvesting had not been practised in Perlis since 1990. He further said that this approach had been taken because the forest coverage was declining

²³² See note 220.

²³³ See note 37.

²³⁴ See note 220.

at that particular time and the SFD is now in the process of upgrading all green coverage in Perlis, including mountains, to be gazetted as PRF.²³⁵ Apart from Perlis, the state of Pulau Pinang has also discontinued forest harvesting in order to sustain forest coverage.²³⁶ Other states have decided to reduce the width of the PRF area opened for logging, such as the states of Pahang, Kelantan, Johor and Selangor.²³⁷ This policy should be followed by other states, especially those states with large forest areas, before their forest is gradually degraded and diminished.

Appendix V shows that the state with the highest population (4.96 million) is the state of Selangor. This indicates rapid urbanization within that state, and this can be clearly seen from the forest profile which indicates that there is no portion of forest in the state land. Thus, one might conclude that the converted forest is perhaps being managed and developed by private corporations, for instance the Selangor State Development Corporation (PKNS). The population of the state of Negeri Sembilan also increased from 0.90 million in 2006 to 0.98 million in 2007; this seems to have affected the size of the area of forested land which was reduced from 158,128 ha in 2006 to 154,185 ha in 2007. The state of Melaka has also experienced an increase in population and a reduction in its PRF area. Thus, based on the aforementioned facts, it can be established that forest coverage in the states of Selangor, Negeri Sembilan and Melaka has been greatly affected by rapid urbanization and the increase in population. The forested land areas of the states of Kelantan and Johor have also decreased in size; however, these states are still able to maintain the PRF despite the increased areas set aside for forest plantations.

²³⁵ See note 26.

²³⁶ See note 37.

²³⁷ See Appendix V, VI.

5.4 Conclusion

After discussing the above-mentioned themes on conservation of forest in Peninsular Malaysia, there are points of concern which need to be highlighted. Among the points is the standard definition of forest in Peninsular Malaysia.²³⁸ This issue is still debated at international level. The need for an adequate definition is significant in order to ensure forest can be sustained for a longer period. Forest should be interpreted in terms of the quality of its resource rather than its quantity so that a high percentage of forest in Peninsular Malaysia can be observed and sustained.

Another point at issue is the percentage of forest coverage in Peninsular Malaysia. The states of Peninsular Malaysia such as Pahang, Perak, Kelantan, Terengganu and Johor still possess large areas of forest compared to other states which have limited potential forested land to be developed.²³⁹ Therefore, the policy on development commitment by state governments needs to be reviewed for these respective states in order to preserve and enhance the PFE. Thus, the SFD needs to develop a policy to reserve a specific percentage of forest cover that represents Peninsular Malaysia as a whole in order to prevent forest in Peninsular Malaysia from totally disappearing.

The state government authorities need to discontinue opening or establishing large-scale agricultural projects and new settlements.²⁴⁰ This would provide space and time for the SFDs to conserve and enhance the quality of forest, especially PFE. The state government authorities should also control the excessive amount of forest conversion to non-permanent forest use, especially for production forest, and should also control the recent higher demand for recreational facilities.

²³⁸ See para 5.2.1.1 (a).

²³⁹ See para 5.2.1.1 (b).

²⁴⁰ See para 5.2.1.2.

In regard to forest categorization as provided under section 10 of the NFA,²⁴¹ this provision is seen beneficial and fruitful for its dependents; however, if the respective forests are not properly maintained, this will contribute to more forest damage. A new classification of ‘state park’ should be introduced to the list of purposes in order for the SFD to manage forest sustainably, as compared to current practice. This will reduce conflicts of interest in forest jurisdiction.

Among other issues that need a stringent approach by the all SFDs is the replacement of forest land after the excision of PFE.²⁴² This must be strictly enforced, especially in the most developed states in Peninsular Malaysia such as the states of Selangor, Penang and Johor. If the state government replaces the excised PFE with unmanaged or idle land, the SFD should ask for compensation in order to conserve and repair the loss and damage. In this particular matter, the application of the ‘polluter pays’ principle should be addressed and comprehended because it is perceived that the provision for obligatory replacement of degazetted forest for the purpose of conservation and reparation is not being taken seriously. In terms of limiting states’ power to replace PFE with non-PFE, section 12 of the NFA should be reviewed. This is to ensure that the remaining areas of PFE can be maintained.

For the purpose of curbing illegal logging, MC&I should encompass both licensed and unlicensed areas in their forest certification assessment because illegal logging also takes place in non-licensed areas.²⁴³ Most of the reported cases of illegal activities in the forest concerned breaches of forest licenses such as illegal logging rather than violations of environmental law, apart from a few cases as discussed earlier.

²⁴¹ See para 5.2.1.4 (a).

²⁴² s 12 of the NFA. State Authority to replace land excised from permanent reserved forest. See para 5.2.1.2 (a).

²⁴³ See para 5.2.1.3 (c).

Despite numerous rules and law regarding forest conservation in Peninsular Malaysia and the policy to ensure standard application of forest law,²⁴⁴ forest is still seen to be decreasing year after year. This has instilled doubt and an uncertain response, especially from the public who are indeed beneficiaries of the forest. There are defects and flaws which should be reviewed and revamped. This is crucial because the issue of forest cannot be settled on the ground of existing ambiguous provisions and uncertainty over action to conserve forest.

Thus, based on the above-mentioned discussion it is clear that forest is much affected with development and also the increase in population.²⁴⁵ Thus, to avoid further forest depletion in Peninsular Malaysia the state with large amount of forest coverage such as Pahang, Perak, Kelantan, Terengganu and Johor need to plan for a systematic approach in maintaining their forest coverage percentage. The state that much affected with urbanization and development such as Pulau Pinang, Selangor, Negeri Sembilan and Melaka should also find alternative strategy to develop without destroying forest coverage. Effort to increase PRF area such as Pulau Pinang and Perlis should be an example for the other state to emulate.

The NGO, which constantly takes part in highlighting forest-related issues such as public participation in EIA, the binding nature of law and procedure, provision for forest conservation, gazettement of forest reserve, et cetera should be appreciated and applauded for such a noble effort which amounts to a valuable outcome when public involvement and participation is acknowledged. Public participation at all levels should be encouraged in ensuring adherence to and compliance with forest law and rules. This issue will be discussed in the following chapter.

²⁴⁴ See para 5.2.1.3 (a), (b), (c).

²⁴⁵ See para 5.3.

CHAPTER SIX: PUBLIC PARTICIPATION IN FOREST CONSERVATION IN PENINSULAR MALAYSIA

6.1 Introduction

After the discussions in previous chapters (chapters one to five) dealing with legal and contemporary issues of forest environment in Peninsular Malaysia, it is worth including a discussion on the participation or involvement of forest communities, namely people residing in rural areas or villages and suburban areas, as well as Orang Asli (the government recognised the aboriginal people as Orang Asli¹ and the term will be used throughout the thesis) of Peninsular Malaysia in this chapter. Hence, chapter six can be considered as dealing with an issue that complements the topic of the thesis.

Effective participation always leads to better implementation of policies and development projects in that the voices or arguments of the parties affected by the development project are given due consideration. Public participation in forest conservation, especially participation by Orang Asli, is a significant topic for discussion because the existence of people dwelling in and around the forest will undeniably determine the survival of forest in Peninsular Malaysia.

The issue in this chapter is significant in terms of observing and understanding the extent of real public participation in forest conservation as provided in the legislation. This public mechanism is indeed clearly provided in several pieces of legislation; however, there are issues regarding the rights of the public to participate in forest conservation or activities. For instance, the MC&I 2001 (Malaysian Criteria and

¹ Azmi Sharom, "A Critical Study of the Laws Relating to the Indigenous Peoples of Malaysia in the Context of Article 8(j) of the Biodiversity Convention", (2006) 13 *International Journal on Minority and Group Rights* 53-67.

Indicators) for forest assessment, which were once disputable, have been improved after being rejected by the social NGOs because of the exclusion of the public interest in terms of participating in forest activities.² The new MC&I 2002 which are said to be fully integrated with Forest Stewardship Council (FSC)'s principles and criteria are now being applied to assess forest management in Malaysia. Internationally, the rights of the public to participate have been conscientiously drafted; thus it is the state's social responsibility to adopt the principle into practice. International forest forums and arrangements have also recognised these public rights on the grounds that forest communities are the closest people to the forest and their vast forest knowledge is undeniable; indeed, they depend on the forest's survival for their traditions and customs to subsist.³

Hence, in this particular chapter the right of forest communities to participate in forest activities and projects and their right to be involved and consulted will be studied; such rights make a significant contribution to forest conservation. While discussing the rights of these communities, several international and national legal instruments in regard to the public's rights in the forest will also be highlighted, for instance the Rio Declaration (the Earth Summit)⁴, the UNDRIP (United Nation Development of the Rights of Indigenous People)⁵, Article 8(j) of the Biodiversity Convention⁶, the National Forestry Act 1984⁷ and its Policy⁸, the EIA - Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987⁹, the TCPA (Town Country and

² In July 2001, the indigenous organisations and most of the NGOs withdrew from the process to improve the MTCC scheme because their argument on the recognition of customary rights, tenures and rights of forest communities was ignored by the MTCC. See Malaysian Timber Certification Council – Sustainable Certification Imposters, January 2004, 21 April 2012, <<http://www.greenpeace.org>>.

³ Wiessner, Siegfried, United Nations Declaration on the Rights of Indigenous, 2008, 24 Feb. 2012 <http://untreaty.un.org/cod/avl/ha/ga_61-295/ga_61-295.html> 11.

⁴ *Report of the United Nations Conference on Environment and Development*, UN GAOR, UN DOC A/CONF.151/26 (Vol. IV) (1992).

⁵ *Universal Declaration on Human Rights*, UN GAOR, 3rd Sess., Supp. No.13, at 71, UN Doc.A/810 (1948)

⁶ *Convention on Biological Diversity*, opened for signature 5 June 1992, UNTS 30619 (entered into force 29 Dec. 1993).

⁷ Laws of Malaysia the National Forestry Act 1984 Act 313

⁸ The National Forestry Policy 1978 (Revised 1992), Approved by the National Land Council on the 19th November 1992, Forestry Department of Peninsular Malaysia.

⁹ Laws of Malaysia, The Environmental Quality Act 1974 (Act 127).

Planning Act)¹⁰ and the APA (Aboriginal People Act) 1954¹¹. The discussion of this legal content is vital in order to determine the conformity to legal recognition of the public's rights to participate in forest development projects that may affect their lives. It is also important to assess whether the rights of the public to participate, especially in the decision-making process, are being effectively exercised and recognized. This chapter also discusses the role and process of public participation in Peninsular Malaysia and examines any hindrances and legal implications of disregarding this process. Factors impeding the rights of the public, including the Orang Asli, to participate are also studied and recommendations for improvement are provided at the end of this chapter.

6.1.1 The Public in Peninsular Malaysia

Before commencing an in-depth discussion of public participation in forest conservation in Peninsular Malaysia, it is important to understand public trends in Peninsular Malaysia in order to perceive whether the size of the population plays a significant role in upholding the rights of the public to participate in forest development activities or projects.

The population trends can be seen in the census of 2010. According to the census, the total number of people in Malaysia has increased to 28.3 million in 2010 from 23.3 million in 2000.¹² The Wilayah Persekutuan Putrajaya, Selangor and Melaka are among the states in Peninsular Malaysia that have attained the highest growth rates of 17.8%, 2.7% and 2.6% respectively, while Terengganu, Perak and Perlis have attained the

¹⁰ Laws of Malaysia, The Town and Country Planning Act 1976 (Act 172).

¹¹ Laws of Malaysia The Aboriginal People Act 1954 (Revised 1974) (Act 134).

¹² Malaysia, Department of Statistics, *Population Distribution and Basic Demographic Characteristics 2010*, (Putrajaya: Department of Statistics Malaysia, 2011), 1.

lowest growth rates from 1.4 percent to 1.2 percent.¹³ Nevertheless population distribution by state shows that Selangor is the most populous with 5.46 million people followed by Johor (3.35 million) whereas Wilayah Persekutuan Putrajaya, with a population of 72,413, is the least populous state in Peninsular Malaysia.¹⁴ Regarding urbanisation, the census stated that the urban population has increased tremendously, a fact related to the rapid development of Malaysia. The percentage of urban population has increased to 71% in 2010 from 62% in 2000.¹⁵ Wilayah Persekutuan Kuala Lumpur and Wilayah Persekutuan Putrajaya both attained 100% in their level of urbanisation whilst other states such as Selangor and Pulau Pinang have 91.4% and 90.8% respectively. The states with the lowest urbanisation levels are Kelantan (42.4%), Pahang (50.5%) and Perlis (51.4%).¹⁶

With regard to the population of Orang Asli in Peninsular Malaysia, the relevant data could only be found in the Basic Information Data of the *Jabatan Hal Ehwal Orang Asli*. According to the available statistical data for 2008, there are 141,230 *Orang Asli* settled in Peninsular Malaysia.¹⁷ Most of the *Orang Asli* communities have direct interests in the forests, being dependent on the forests for their livelihoods compared to the other sections of the public. As Malaysia is recognized as being among the “Biological 17”¹⁸, the survival of *Orang Asli* forest knowledge and tradition should be sustained to ensure preservation of exceptional numbers of flora and fauna species unique to those specific locations.¹⁹ For that reason, if the area of forest is reduced and depleted or sacrificed for development to an untenable degree, the survival of *Orang*

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ *Id* at 4.

¹⁶ *Ibid.*

¹⁷ Malaysia, Bahagian Perancangan dan Penyelidikan Jabatan Hal Ehwal Orang Asli, *Data Maklumat Asas Jabatan Hal Ehwal Orang Asli Tahun 2008*, (Kuala Lumpur: Bahagian Perancangan dan Penyelidikan Jabatan Hal Ehwal Orang Asli, 2008).

¹⁸ Biological 17 refers to the nations that are home to more than two-thirds of the Earth’s biological resources, and are also the traditional territories of most of the world’s indigenous people. The countries are Australia, Brazil, China, Columbia, the Democratic Republic of the Congo, Ecuador, India, Indonesia, Madagascar, Malaysia, Mexico, Peru, the Philippines, South Africa, Papua new Guinea, the United States of America and Venezuela. See Leaflet No.10: Indigenous Peoples and the Environment, 11.3.2012 <<http://www.ohchr.org/Documents/Publications/GuideIPleaflet10en.pdf>>

¹⁹ *Id* at 1.

Asli's forest knowledge and tradition cannot be sustained. After all, sustaining the forest is crucial for maintaining those exceptional flora and fauna, as well as Orang Asli's forest knowledge and tradition.

The population of Orang Asli in Peninsular Malaysia is being monitored by DAMAK (*Data Maklumat*) Information System. The system has been established by the Department of Orang Asli Development (the JAKOA - *Jabatan Kemajuan Orang Asli*²⁰) of Peninsular Malaysia, which is a federal government department under the Ministry of Rural and Regional Development Malaysia. Orang Asli in Peninsular Malaysia are divided into three main groups: Negrito, Senoi and Proto Malay.²¹ Their settlement by states in Peninsular Malaysia is shown in Table 6.1. From the table it can be seen that most of the *Orang Asli* have settled in the state of Pahang, with the fewest in the state of Kedah.²²

Table 6.1: Total number of Orang Asli and their settlement in Peninsular Malaysia

COMMUNITY STATE	SENOI	PROTO MALAY	NEGRITO	TOTAL
JOHOR	44	10,893	1	10,938
KEDAH	-	-	196	196
KELANTAN	9,702	19	1,086	10,807
MELAKA	27	1,208	-	1,235
NEGERI SEMBILAN	74	8,380	-	8,454
PAHANG	23,120	26,892	780	50,792
PERAK	40,856	410	1,575	42,841
SELANGOR	4,651	10,556	3	15,210
TERENGGANU	682	45	30	757
TOTAL	79,156	58,403	3,671	141,230
PERCENTAGE	56.05%	41.35%	2.60%	100%

Source: DAMAK Information System, JHEOA 2008.²³

From the above-mentioned facts and figures, it is believed that the states least affected by urbanization, namely Kelantan, Pahang and Perlis are able to sustain their forest

²⁰ Previously known as JHEO (*Jabatan Hal Ehwal Orang Asli*- Department of Orang Asli Affairs).

²¹ Section 2 of the Aboriginal People Act 1954.

²² See note 9.

²³ *Ibid.*

coverage compared to those states most affected by urbanization, namely Selangor and Pulau Pinang. Pertaining to Orang Asli and forest, it is assumed that the state with the largest Orang Asli community will have the greatest forest coverage because, as mentioned before, forests are the homelands of Orang Asli. Thus, it is uncertain whether the amount of forest coverage can be sustained for many more years because of the current trends in forest and population.²⁴

6.1.2 The Concept of Public Participation and Its Importance

During the industrialization era, developed countries were strenuously engaged with development activities and projects in order to boost their economies. Most of the states had experienced remarkable progress in generating wealth and income. However, the boosting of state revenues was detrimental to environmental conditions. The environmental conditions gradually worsened as a result of deficient policies for monitoring environmental affairs. There were no public consultations as a prerequisite to the approval of certain projects; this resulted in a deteriorating environment and ended up contributing to costly and irreparable damage.

Nevertheless, in recent years the level of sensitivity especially towards environmental protection and information has increased tremendously in line with globalisation and the evolution in information technology which enabled the public to gain easy access to real and fresh information. This sensitivity should be appropriately channelled to the relevant authorities so that environmental information can be publicly disseminated. Thus, the government and those in authority need to prove their transparency and integrity in ensuring that the rights of public are upheld.

²⁴ Demeny, P, "Population", *The Earth As Transformed by Human Action*, Ed. Turner II, B.L., (USA: Cambridge University Press, 1990) 41-54.

Participation has been defined and explained from many different angles. According to Rifkin and Kangere²⁵, participation is “a complex and challenging approach to improving the lives of all people, but particularly the poor and disadvantaged.” In a study by Reinke and Robitaille, the authors highlighted that courts could identify the insufficiency of the Environmental Assessment (EA) when public involvement issues existed.²⁶ Another illustration of public participation in environmental matters can be seen in the US government practice where the successful management of public involvement is an effective signal of the NEPA (National Environmental Policy Act) practice.²⁷ According to the NEPA, the burden of preparing the EA falls on the project owner and he/she is responsible for identifying those affected by and interested in the project.²⁸ The issue of EA documentation failing to reach the public or unintentionally omitting interested parties has always been a problem.²⁹ Azizan, in his simple conclusion on public participation, stated that “the definition of participation explains about the concept of democracy, human right and empowerment as a core of the definition.”³⁰ Azizan further locates the role of the political system as part and parcel of the public participation process in ensuring the smooth flow of top-bottom executive decisions in a planning process.³¹

The same underlying principle on public participation is found in the health aspects, where the concept of social participation runs parallel with public participation. This has

²⁵ Rifkin, Susan B. and Kangere, M., *CBR A Participatory Strategy in Africa*, 30.1.2012 <<http://www.asksources.info/cbr-book/cbr03-pdf>>.

²⁶ Reinke and Robitaille in Eccleston, C.H, *Effective Environmental Assessments How to Manage and Prepare NEPA EAs*. See note 12.

²⁷ Eccleston, C.H, *Effective Environmental Assessments How to Manage and Prepare NEPA EAs* (CRC Press LLC: Florida, 2001), 42.

²⁸ *Ibid.*

²⁹ *Ibid.*

³⁰ Azizan Marzuki, *A Review on Public Participation in Environmental Impact Assessment in Malaysia*, Theoretical and Empirical Researches in Urban Management, No.3(12)/August 2009, 30 Jan. 2012 <<http://um.ase.ro/no12/10.pdf>>.

³¹ *Ibid.*

been defined by the WHO (the World Health Organisation) which noted that social participation can exist in several different forms:³²

- Informing people with balanced, objective information;
- Consulting, whereby the affected community provides feedback;
- Involving or working directly with communities;
- Collaborating by partnering with affected communities in each aspect of the decision including the development of alternative identification of solutions; and
- Empowering, by ensuring that communities retain ultimate control over the key decisions that affect their wellbeing.

Besides the above-mentioned concept of public participation, this public mechanism is seen to be practised by local government rules in Peninsular Malaysia in any matter involving the public, for instance in a case where the local government wanted to increase the rate of residential tax. In the case of *MPK v. Zakiyah*, the public were allowed to object to the increment based on section 145 of the Act, and the learned High Court judge in this case allowed the public's appeal after considering the unreasonableness of the increment of assessment rate for the public, with the low-income group settling for a lower cost. In this matter, the local government authority is bound by Act 171³³ and by the local government rules in giving the public an opportunity to become involved in the decision-making process, in this case the increment of assessment rate.

Therefore, from the above-mentioned concept and application of public participation it can be said that the public do have a platform to become involved and participate; however, the extent to which public participation is allowed and welcomed in the planning process due to the discretionary power of the authority is debatable based on previous experience of several cases and occasions.³⁴ These preceding cases will be

³² World Health Organization, Social determinants of health-Social participation, 10 Feb. 2012, 2008 <http://www.who.int/social_determinants/thecommission/countrywork/within/socialparticipation/en/index.html#>.

³³ *MPK v. Zakiyah* [2004] 2 MLJ 593. See Laws of Malaysia The Local Government Act 1976. Section 130(1) provides the basis of assessment rate where it states that local government has the authority to assess the rate based on the annual rate of title or additional rate of title specified by the state government.

³⁴ The case of Mahang's, Sungei Selangor Dam, Jerai Quarry case, Subang Jaya Municipal Council, Penang Hill.

highlighted in section 6.2.2. Hence, it can be established that to upgrade or enhance the standard of living of underprivileged people is not an easy undertaking as a positive outcome can only be achieved with the support of the majority of people and indeed by those in authority.

6.1.3 The Importance of Public Participation

There are several reasons why it is important for the public to be involved and participate in any level of the progress and development of forest. First of all, the public must not be treated as a hindrance to development and as mere informants about illegal activity in the forest; indeed, the public must be consulted at the very beginning of the project because their quality of life may be affected. Through participation, public will become aware of the environmental practices being undertaken by the forest stakeholders and conservators. Moreover, the public will gain more and better knowledge pertaining to forest conservation, especially Orang Asli who lives within the forest area. Therefore, the right to appreciate and benefit from forest is regarded as a human right which must not be compromised by any other means. This public right has already been underlined by the international convention.³⁵ Thus, there is no reason why the public should not be given the opportunity to participate or become involved in any decision-making about forest projects and activities. All in all, the relevant forest authorities should have clear policies and guidelines on public participation based on international recognition so that public can join and be involved in any forest development and projects.

The WHO has distinguished the different views on the importance of public participation during the decision-making process by local authorities into two groups of

³⁵ Principle 10 of the Rio Declaration, the Convention on Biological Diversity (CBD), the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

arguments by citizens and professionals; these may represent their opinions and contribute to benefits for individuals, communities, organisations and society as a whole. (Table 6.2)

Table 6.2: Why is the participation process important?

Citizens' and communities' arguments:	Professionals' argument:
<ul style="list-style-type: none"> • “We have the right to a say about decisions that affect our lives.” • “We know more about where we live and what we want and what is best for us than people working for big organisations.” • “We are fed up with politicians and civil servants asking us what we think and then not taking our views into account - we want to be actively involved and to have an influence.” • “We all have something to contribute – and our ideas and views are as valid as anyone else’s.” 	<ul style="list-style-type: none"> • “Community participation can help us target resources more effectively and efficiently.” • “Involving people in planning and delivering services allows them to become more responsive to need and therefore increases uptake.” • “Community participation methods can help develop skills and build competencies and capacities within communities.” • “Involving communities in decision-making will lead to better decisions being made, which are more appropriate and more sustainable because they are owned by the people themselves.” • “Community participation is a way of extending the democratic process, of opening up governance and of redressing inequality in power.” • “Community participation offers new opportunities for creative thinking and innovative planning and development.”

Source: World Health Organisation – 1999³⁶

The WHO has also established in regard to community participation that this community activity can develop and strengthen decisions and services, and may thus uphold the sustainability of programmes.³⁷ Thus, it is clear that the participation and involvement of the public in decision-making in the planning process is considered crucial so that no one is deprived of their right to a good quality of life. In applying WHO’s finding on why participation is important in forest environment issues, it is clear that the forest community has also made the same arguments based on a series of

³⁶ World Health Organisation, (1999), Community participation in local health and sustainable development: a working document on approaches and techniques, European Sustainable Development and Health Series: 4, 1999, 10 Feb. 2012 <www.health.vic.gov.au/localgov/downloads/who_book4.pdf>.

³⁷ *Id* at 10.

objections and previous cases. The public or communities need their opinions and voices to be heard and put into action, especially by those in authority; it is not enough to know that the process exists in legislation but in reality is being inappropriately administered.

6.2 Public Participation in Forest Conservation

6.2.1 International and National Legal Content

The right of the public to be involved in activities which may impact the environment was first propounded by the European Commission in its EIA Directive (85/337/EEC) in 1985.³⁸ The directive, which has been amended three times, in 1997, 2003 and 2009, indicates the seriousness of the European Community's intention to recognise the public's right to participate in environmental matters.³⁹ Throughout the amended provisions, the right of the public to participate in any project has been enhanced to the extent that the public may be involved in the project's decision-making process. The list of projects has also been added to, namely projects related to transport, and capture and storage of carbon dioxide (CO₂).⁴⁰

The concept of public participation has been further established in the Aarhus Convention approved by the European Community and its member states.⁴¹ This particular convention was a result of the Rio Declaration 1992 (the Earth Summit⁴²)

³⁸ The right to information has been recognized by the UDHR and the ICCPR. Malaysia has neither signed nor ratified the ICCPR. See Article 19 and Centre for Independent Journalism, *A Haze of Secrecy Access to Environmental Information in Malaysia*, (Kuala Lumpur: Article 19 and Centre for Independent Journalism, 2007) 21.

³⁹ Directive 97/11/EC, Directive 2003/35/EC, Directive 2009/31/EC. <<http://ec.europa.eu/environment/eia/eia-legalcontext.htm>>.

⁴⁰ European Commission Environment, *Environmental Impact Assessment*, 16 Nov. 2011, 31 Jan. 2012, <<http://ec.europa.eu/environment/eia/eia-legalcontext.htm>>.

⁴¹ Access to information, public participation and access to justice in environmental matters, 15 May 2008, 27 May 2008 <<http://europa.eu/scadplus/leg/en/lvb/128056.htm>>.

⁴² The United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil in June 1992 recognised indigenous people to have critical role in managing and developing the environment. See <<http://www.ohchr.org/Documents/Publications/GuideIPLet10en.pdf>>.

which was concerned with three “Access Principles”⁴³ provided in its Principle 10. The notion of public participation in environmental matters can be clearly seen in its Principle 10 where it states that:⁴⁴

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making.

The Rio Declaration indeed provides a platform for the government to give space for public participation and it is the government’s obligation to disclose any environmental information for the public’s benefit. The government should also alert the public to any hazardous impact on or consequence for the environment resulting from the development activity. Thus, the Rio Declaration should be earmarked for further international and national arrangements and treaties, particularly on the right to access environmental information. The Convention on Biological Diversity (CBD) was also adopted where it recognises the rights of indigenous communities concerning biological resources and the sharing of benefits in terms of traditional knowledge and practices to conserve biological diversity.⁴⁵ Related provisos under CBD are Articles 8(j), 10(c), 17.2 and 18.4, of which Article 8(j) is the most significant provision relating to the highlighted rights of the indigenous people.⁴⁶ The CBD has urged the government to introduce legislation and amend the constitution in order for the indigenous people to participate in the conservation and sustainable use of the environment.⁴⁷ Public participation, especially among Orang Asli in Peninsular Malaysia, is always an issue. This aboriginal group of people is always being denied their rights to participate and be involved in development projects that affect their living areas. Besides Orang Asli,

⁴³ The three “Access Principles” are: 1) the rights of all citizens to access information, 2) to participate 3) to access justice (redress and remedy). See Article 19 and Centre for Independent Journalism.

⁴⁴ See note 38 at 28.

⁴⁵ Leaflet No.10: Indigenous Peoples and the Environment, 11 Mar. 2012
<<http://www.ohchr.org/Documents/Publications/GuideIPleaflet10en.pdf>> 3.

⁴⁶ *Id* at 5.

⁴⁷ *Id* at 3.

people in the suburban areas are always neglected in the process of development projects and their involvement is always considered to hinder the projects' progress.

The rights of Orang Asli have also been recognized and affirmed by the international arrangement of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2007. This has been regarded as the ultimate remarkable outcome of endless efforts by people all around the world in addressing concerns about the indigenous peoples.⁴⁸ Article 18 of the UNDRIP specifically addressed the right of indigenous people to participate in decision-making process where their lives would be affected. Article 18 further provides that no specific procedures will be established by the states for the indigenous people to participate due to various factors of demography and constitutional structure of the state.⁴⁹ Article 29(1) and 32(1) also provide rights to the indigenous people with regard to conservation practices, environmental protection and the right to design their own development strategies for the use of their lands and other resources, all of which must be exercised with their free, prior and informed consent.⁵⁰ All in all, the participation of indigenous people appears to be effectively safeguarded. Thus, it is time for the state to show its support in upholding the aim of the UNDRIP to provide indigenous people with the opportunity to enjoy the privilege of their tradition and custom. Malaysia is among the states supporting this effort and is a signatory to the UNDRIP.⁵¹ Before the coming of UNDRIP, Malaysia had adopted Local Agenda 21 in which Chapter 26 - Recognizing and Strengthening The Role of Indigenous People and Their Communities - highlighted the active participation of indigenous people in the national formulation of policies, laws and programmes relating to any development processes that may affect their lives. Besides that, the indigenous

⁴⁸ See note 3.

⁴⁹ Wiessner, Siegfried, Report on the Hague Conference, Rights of Indigenous People, (International Law Association:2010), 14.

⁵⁰ *Id* at 23-24.

⁵¹ Ramy Bulan, Indigenous People and the Right to Participate in Decision Making in Malaysia, 23 Feb. 2012 <<http://www2.ohchr.org/english/issues/indigenous/ExpertMechanism/3rd/docs/contributions/UniversityMalaya.doc>>.

people's active participation is also expected in resource management and conservation strategies related to programmes of sustainable development in Agenda 21.⁵²

In regard to free, prior and informed consent (FPIC) that is an exclusive rights set for indigenous people⁵³ is also recognized in the UNREDD programme as the following;⁵⁴

- Free: Should be free of coercion, corruption, interference, and external pressure
- Prior: Mutually agreed period of time in advance of an activity or process when consent should be sought
- Informed: The type of information that should be provided prior to seeking consent and also as part of the ongoing consent process.
- Consent: Customary decisions made by indigenous peoples and other forest dependent communities reached through their socio-cultural decision-making process

The FPIC has been emerged in various international level for instances the International Labour Organisation's Convention-169/1989 concerns with relocation of indigenous peoples where these peoples have been fully consulted relating to their land, development and resources, the UN Committee on the Elimination of Racial Discrimination (CERD) emphasis on effective participation and every decision that may affect the rights and interests of the indigenous people need their informed consent, the UN Committee on Economic, Social and Cultural Rights on report of Columbia in relation to traditional lands stressed on consultation and seeking the consent of indigenous people before the implementation of project that affect the indigenous people's lives, the UN Workshop on Indigenous Peoples, Private Sector Natural Resources, Energy and Mining Companies and Human Rights resolved that the indigenous people as land and resource owners to say "no" to proposed projects.⁵⁵

⁵² UN Department of Economic and Social Affairs Division for Sustainable Development, *Agenda 21*, 2009, 21 April 2012, <http://www.un.org/esa/dsd/agenda21/res_agenda21_26.shtml>.

⁵³ Nevertheless, there is also other suggestion that the FPIC is also for all communities and not just Indigenous People. See Goodland, Robert, "Free, Prior and Informed Consent and the World Bank Group", (2004) 4 *Sustainable Development Law & Policy* 66-74.

⁵⁴ UNREDD official website, See 12 Nov. 2012 <http://www.un-redd.org/Stakeholder_Engagement/Guidelines_on_FPIC/tabid/55718/Default.aspx>.

⁵⁵ Id at 5-7. The other international arrangements that emphasized on the FPIC are the Cartagena Protocol on Bio-Safety to the CBD, the Fifth Conference of Parties to the CBD Decision V/16, the UN Sub-Commission on the Promotion and Protection of Human Rights on the Norms on the Responsibility of Transnational Corporations and other Business Enterprises with regard to Human Rights, the Intergovernmental Panel on Forest, the UNCED 1992, the Rio Declaration in article 22, the UNDP.

In national level, several states have taken initiatives to instill the FPIC in their programmes involving the indigenous people's rights and interests. The element of consent has established and discussed previously in several international arrangements with various degrees and concerns for instances self-determination and free pursuit of people's own development,⁵⁶ the issue of displacement,⁵⁷ consent is also made mandatory under the UN Food and Agricultural Organisation (FAO) Code.⁵⁸ In Malaysia, the effort of recognizing the FPIC has not been reflected in Peninsular Malaysia nevertheless reflected in Sabah and Sarawak legislation.⁵⁹

In regard to Peninsular Malaysia's legislation relating to forest is the National Forestry Policy (NFP) and The National Forestry Act (NFA). Unfortunately, there is no provision relating to public participation under either the Policy or the Act except the concept of forest community provided under the Policy. However, the forest community here refers to public education on the forest and there is nothing referring to participation in the decision-making process such as being addressed by the international law.

Nevertheless, the public right to participate is embedded in the Environmental Impact Assessment (EIA) guidelines⁶⁰, an instrument governed by the Department of Environment Malaysia. It is obligatory to prepare the EIA as provided under section

⁵⁶ See note 53. The International Bill of Rights, International Covenant on Economic, Social and Cultural Rights and International Covenant on Political and Civil Rights, The FPIC has been clearly recognized by the UNDRIP as aforementioned and also the Inter-American Declaration on the Rights of Indigenous Peoples. See also note 53 at 4-9 (The FPIC in International, Regional and National Level on law and practices), See also UN-REDD Programme Guidelines on Free, Prior and Informed Consent, 12 Nov. 2012, <[http://www.unredd.net/index-](http://www.unredd.net/index.php?option=com_docman&task=doc_view&gid=6369&tmpl=component&format=raw&Itemid=53)

⁵⁷ *Id* at 67. The UN International Labour Organisation (ILO) Convention 169/1989>

⁵⁸ *Ibid*. The other international arrangements that are strict in FPIC requirements are the 1989 Basel Convention on hazardous wastes, the 2001 Stockholm Convention on Persistent Organic Pollutants and the 2002 Convention on Biological Diversity. In 1998, the Rotterdam Convention on Free Prior Informed Consent was adopted.

⁵⁹ Parshuram Tamang, An Overview of the Principle of Free, Prior and Informed Consent and Indigenous People in International and Domestic Law and Practices, Workshop on Free, Prior and Informed Consent and Indigenous People (New York: UN, 17-19 Jan. 2005). PFII/2004/WS.2/8.

⁶⁰ Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987.

34A of the Environmental Quality Act (EQA) 1974⁶¹ but this is confined to large projects which are predicted to cause major impact on the environment, for instance waste management projects, dam projects and logging projects.⁶² The EIA basically serves as an assessment of prescribed activities which may have a significant environmental impact; among the requirements of the assessment to be fulfilled by related parties to the development is public participation. However, the public will only be consulted in a detailed assessment and such persons are commonly experts in their respective fields, namely NGOs, geologists, engineers, academics and concerned individuals.⁶³ In an EIA process, the project proponent is seen as the dominant beneficiary whereas the affected public cannot raise their voices and arguments because the cost of the EIA process is borne by the project proponent.⁶⁴ This situation results in the unfair treatment of the public right to participate in decision-making; in this particular situation the process should be efficiently dealt with by the public service for the benefit of all the parties.⁶⁵ It has also been suggested that the EIA Handbook be amended in order for the affected public to effectively submit their views to the related authority.⁶⁶ In the Orang Asli situation, the project proponents have always failed to conduct a follow-up EIA after five years to assess the actual impact of the project.⁶⁷

As well as being established in the EIA, the concept of public participation is also stated under the Town and Country Planning Act (TCPA). The TCPA is governed by the Ministry of Rural Development and Federal Territory where there are provisions for public participation such as provided under sections 9, 10, 12A, 13, 14 and 15 of the Act. These are concerned with the rules and the obligation of the authority to publicise

⁶¹ Law of Malaysia The Environmental Quality Act (Act 127).

⁶² See note 38 at 55.

⁶³ *Id* at 58.

⁶⁴ Kanniah, Rajeswari, Public Participation in the Environmental Impact Assessment Process in Malaysia, [2000] 3 *Malayan Law Journal* cxxxiv.

⁶⁵ *Ibid*.

⁶⁶ *Ibid*.

⁶⁷ Putting the People in EIAs assessing environmental impacts on indigenous people, Aug. 1997, Vol.51, No.1, *Malayan Naturalist*, 1997, 34-38.

both draft structures and local plans for public in order for them to participate in the process of approving the plans.

Even though both of the above-mentioned legal instruments are seen to provide opportunities for the public to participate, their effectiveness is still debatable.⁶⁸ This is because most of the reports, be they EIA or structural plans, involve technical jargon that only experts can comprehend.⁶⁹ Lack of knowledge means that the public cannot make constructive comments or objections; thus, it is the role of the planning authority to prepare accessible 'friendly' reports so that laypersons, especially the rural public, can understand and appreciate them.⁷⁰ The TCPA, with such a constructive provision for public participation, indeed has not defined the term 'public participation'; this causes difficulties for the public in determining the manner in which they should participate. Therefore, public participation in development plan processes in Malaysia cannot be said to be achieving its main objective, namely public participation in sustainable development.⁷¹

With regard to the legal recognition of Orang Asli in Peninsular Malaysia, the term 'Orang Asli' is specifically defined under section 3 of the Aboriginal Peoples Act 1954 (Revised 1974).⁷² From the provision it is clear that an Orang Asli is a person who habitually follows the aboriginal way of life, and anything related to Orang Asli or aboriginal people of Peninsular Malaysia is subject to the Act. The definition of the aborigine or Orang Asli in Peninsular Malaysia is not specified under the Federal

⁶⁸ See note 1, Malaysia has a poor record when it comes to public participation in official decision-making process.

⁶⁹ Ainul Jaria Maidin, *Access to Public Participation in the Land Planning and Environmental Decision Making Process in Malaysia*, 20 Feb. 2012 <<http://www.ijhssnet.com>>. See also note 1.

⁷⁰ *Ibid.*

⁷¹ See note 60 and note 1.

⁷² Section 3 of the APA

(a) any person whose male parent is or was a member of an aboriginal ethnic group, who speaks an aboriginal language and habitually follows an aboriginal way of life, customs and beliefs, and includes a descendent through males of such persons;

(b) any person of any race adopted when an infant by an aborigine, who has been brought up as an aborigine, habitually speaks an aboriginal language, follows an aboriginal way of life, customs and beliefs and is a member of an aboriginal community; or

(c) the child of any union between an aboriginal female and a male of another race, provided that the child habitually speaks an aboriginal language, follows an aboriginal way of life, customs and beliefs and remains a member of an aboriginal community.

Constitution of Malaysia, thereby disadvantaging Orang Asli regarding certain privileges and benefits enjoyed by other sections of society.⁷³ However, any disputes in determining conflicts or issues of Orang Asli are decided by the Minister concerned. The JAKOA (Department of Orang Asli Development)⁷⁴ is presently under the Ministry of Rural and Regional Development. In a keynote speech by Anwar Ibrahim, Orang Asli was defined as “the Bumiputera” (prince of the earth) community.⁷⁵ To expand the definition of indigenous people in Peninsular Malaysia, The Hague Conference in 2010 made some efforts to acknowledge this special group according to the following characteristics of people:

- self-identification: self-identification as both indigenous and as a people;
- historical continuity: common ancestry and historical continuity with pre-colonial and/or pre-settler societies;
- special relationship with ancestral lands: having a strong and special link with the territories occupied by their ancestors before colonial domination and surrounding natural resources. Such a link will often form the basis of the cultural distinctiveness of indigenous peoples;
- distinctiveness: having distinct social, economic or political systems; having distinct language, culture, beliefs and customary law;
- non-dominance: forming non-dominant groups within the current society;
- perpetuation: perseverance in maintaining and reproducing their ancestral environments, social and legal systems and culture as distinct peoples and communities.

There have been several cases⁷⁶ of Orang Asli being neglected in the EIA process, thus suggesting that their rights have yet to be recognised. Even though the EIA report studied the Orang Asli population, it failed to consider the long-term effect on these people.⁷⁷ No follow-up surveys have been conducted even though they are clearly

⁷³ Article 153 only provides special privileges for Malays and natives of Sabah and Sarawak with respect to services, business permits and licenses, scholarships or other educational or training privileges.

⁷⁴ *Jabatan Kemajuan Orang Asli*.

⁷⁵ The Bumiputera are the Bajaus, the Bateqs, the Kensius, the Kintaks, the Lanohs, the Mah Meris, the Malays, the Mendriqs, the Orang Dusun, the Penans, the Semelais, the Temiars, et cetera. Keynote address at the International Seminar on Indigenous People, 29 November 1993, Kuala Lumpur in Fui at p 3. See also 27 Mac 2012 <[http://en.wikipedia.org/wiki/Bumiputera_\(Malaysia\)](http://en.wikipedia.org/wiki/Bumiputera_(Malaysia))>. The term Bumiputera, however, is not defined in any legal content and there are issues regarding certain community groups in Malaysia to be also recognised as Bumiputera namely Thai Malaysians, Muslim Indian Malaysians, Straits Chinese or Peranakan and the Kristang People of Portuguese-Eurasian descent. The Bumiputera term was introduced by Tunku Abdul Rahman. See also Fui at p 6.

⁷⁶ The case of Orang Asli : The Jahais in Belum of the Temenggung Dam case, The Temuan in Sepang, of the KLIA highway case, Six Orang Asli in Ligui Reservoir Project case. See note 50.

⁷⁷ *Id* at p 34.

required under the EIA guidelines, and this contributed to severe impacts on the environment, such as the occurrences in *Pos Dipang* and *Kampung Tisong, Sungkai*.⁷⁸

The above discussion indicates that there are various pieces of legislation on public participation, including the Orang Asli; however, whether the public effectively enjoy their rights to the fullest is arguable. The right of Orang Asli to participate has also been formally and internationally recognised; however, the issue of Orang Asli's rights to their customary land is still being raised.

Therefore, to gain a clear view of the issue of public participation on forest conservation in Peninsular Malaysia, it is proper to highlight several further related issues and cases regarding international and national legal instruments on public participation.

6.2.2 Issues of Public Participation in Forest Conservation in Peninsular Malaysia

This section highlights several related issues to show that the public's right to be involved in planning decisions has been jeopardized due to several factors which will be discussed next.

6.2.2.1 Loss of the green cover

A series of objections and issues relating to loss of green cover have been raised by the public all over Peninsular Malaysia. Individual complaints by members of the public is often ignored by those in authority; hence, the public set up community groups and obtain assistance from environmental NGOs in order to proceed with their complaints. Some of the cases succeed and some fail.

⁷⁸ *Id* at p 35. Land slide in Pos Dipang has killed 39 Orang Asli due to logging activity; Orang Asli village of Kampung Tisong was flooded also due to logging activity.

One case of public protest involved an objection raised by the residents of the Subang Jaya against the Subang Jaya Municipal Council. The objection was made against the Municipal Council's approval of commercial projects in buffer zones. More than 200 residents had gathered at a briefing on the Subang Jaya Draft Local Plan and none of them came prepared with any objections because they were only expecting to be given a briefing. The residents then proposed a public hearing so that all of them could listen and raise questions and objections pertaining to the draft local plan.⁷⁹ This case shows the weakness of the system in that public voices have not been appropriately addressed. Unfortunately, in such a case the public is being denied the right to be fully informed and to participate.

Another scenario of public protest over the destruction of green cover is the case of Penang Hill. In this case, the Friends of Penang Hill was formed; this was a collective effort by the NGOs and six other public interest groups. Ultimately, they succeeded in stopping the developer's proposed project, which might have caused environmental destruction, after several objections and discussions with the state government.⁸⁰

In the case of public objection to the operation of a quarry in Jerai, Kedah, the effect of the quarry operation, which could cause environmental harm to the public living nearby, has been an issue. The *Sahabat Alam Malaysia* (the NGO) had assisted the public to bring the case to the court. This case started in 1997 when the state government of Kedah had assented to the structure plan for the district of Yan from 1995-2020 and the same was gazetted on 1st January 1987. The case was reported in 2010⁸¹ and the court

⁷⁹ Dass, Maria J., *Residents lament loss of open space*, 20 Feb. 2012
<http://www.malaysianbar.org.my/members_opinions_and_comments/>

⁸⁰ See note 60.

⁸¹ Awang @ Harun bin Ismail & Ors v Kerajaan Negeri Kedah & Ors [2010] 4 MLJ 83.

upheld the plaintiff's rights in maintaining the forest reserve area against the quarry operation which had adversely affected their lives. Thus, after several stages of court procedure, the learned judge in this case held that the defendant must be estopped by the principles of *res judicata* from once again raising the issue of *locus standi* in this matter. This shows that public rights are protected under the law and, in this particular case, the public is protected by the Town and Country Planning Act. The judge stated the following: 'Clearly, then, they come within the class of persons the structure plan seeks to protect: those who have homes, orchards or padi fields within the area, those whose source of water are the rivers running in the area for which the forest represents an important water catchment area.'

The effect of logging activity in the Permanent Reserve Forest of *Gunung Bongsu* has been a painful episode for the people living in *Kampung Cherok Meranti* in Mahang, Kedah. Their water resources have deteriorated and their crops have been buried by the 30 cm-thick mud resulting from the logging activity. They have had to climb the mountain to clean the muddy area, which required extra effort, cost and time. After a series of objections and discussions chaired by the state government, the logging company has promised to conserve the logging area by replanting it. However, the company failed to comply with the state's conditions and continued their logging activities, deteriorating the villagers' water resources. Afterwards, the company only replaced the destruction of green cover with new seedlings; the villagers felt that the compensation is insufficient to cover their loss.

In another case, this time concerning the Sungai Selangor Dam, public objections portrayed the low level of public knowledge with regard to the process of objection in the decision-making process of the development plan. In this case, the Department of

Environment (DOE) received 200 letters from the public; however, only 18 of them had commented on the technical and scientific consequences while the rest were simply protest letters.

From the above-mentioned issues of the loss of green cover, the public is clearly not being provided with accurate information and guidelines on how they could be involved and participate in such processes. The public indeed need assistance and guidance from the experts and the environmental NGOs so that their issues can be efficiently and effectively handled. The public's only concern is for their objections and issues to be taken care of by the relevant authority.

6.2.2.2 Orang Asli in Peninsular Malaysia and Their Participation

Forested land has provided homelands for Orang Asli and they depend greatly on forest for their survival. For generations they have resided in the forest; hence, they have rights to roam in the forest without needing official permission and with no limitations.⁸² The recent large-scale vegetable farms and agricultural plantations have resulted in forest clearance and the settlement of Orang Asli is surrounded by development. *Kampung Terisu*⁸³ near Tanah Rata in the Cameron Highlands is an example of Orang Asli's settlement being surrounded by the rapid growth of these vegetable farms. With regard to the situation in *Kampung Terisu*, in order to prevent deterioration of natural resources, especially resources of clean water, from excessive release of hazardous chemicals or waste, the implementation of the environmental control mechanism should be closely monitored by those in authority.

⁸² Section 6(2) of the Aboriginal People Act provides the right to Orang Asli to roam in forest but subject to certain limitation.

⁸³ *Kampung Terisu* is Orang Asli settlement, 28km from Tanah Rata, Cameron Highlands.

Other than the problems caused by large-scale vegetable plantations, *Orang Asli* have also suffered loss and misery as a result of development activities, namely logging, mining, dams, protected areas and infrastructures.⁸⁴ They have raised these issues through a series of objections and demonstrations, showing their disappointment and disagreement with the violation of their rights to the forest which is their native land.⁸⁵ In 2008, the Indigenous Peoples Network of Malaysia (JOAS) submitted a memorandum to the *HRH DYMM Seri Paduka Baginda Yang Dipertuan Agong*, among others, highlighting crucial issues including Orang Asli's participation in decision-making processes that affect their lives. Several provisions under the Federal Constitution of Malaysia, namely Article 5 to Article 13 (fundamental liberties), and the UNDRIP, namely Articles 3, 26, 28, 32, 10, 20 38, 42, have been underlined to support the objectives of their memorandum. Basically, it can be said that the number of issues and actions raised by Orang Asli indeed reflects the level of knowledge and awareness of Orang Asli.

Currently, people are starting to show concern for the welfare of the native people or Orang Asli. In the past, the lives of Orang Asli have been greatly affected because this community has been omitted from the mainstream of public life.⁸⁶ The current situation has shown positive progress regarding the rights of Orang Asli; their voices and opinions have been listened to and they hope to claim the right to enjoy equal treatment with other sections of the public. Despite the fact that some people are taking advantage of the riches of nature to the detriment of Orang Asli,⁸⁷ there are at least some groups of

⁸⁴ Orang Asli 2007 Statement on Malaysian Independence and Nationhood - Statement by the Orang Asli of Peninsular Malaysia and the Natives of Sabah and Sarawak in conjunction with 50 years of Independence and 44 Years of Malaysian Nationhood, 18 Apr. 2012 <http://www.coac.org.my/codenavia/portals/coacv2/code/main/main_art.php?>>.

⁸⁵ 300 Orang Asli all over Peninsular Malaysia had gathered at *Dataran Merdeka* to join the procession of the Festival of Rights 2006. See Orang Asli Walk For 'Tanah Adat', The New Straits Times, 11 Dec. 2006 <http://www.coac.org.my/codenavia/portals/cocv2/code/main/main_art.php?parentID=115>.

⁸⁶ Nicholas, Colin, "Participation and Recognition of Orang Asli as Stakeholders in Protected Areas Management", Centre for Orang Asli Concerns, *National Workshop on Protected Areas Management: Direction for the Future* (Kuala Lumpur, 14-16 January 2002), 2.

⁸⁷ Meeting with JAKOA on 21 Oct. 2011.

people who are concern about Orang Asli and development, namely related authorities, experts and NGOs who are able to assist and guide Orang Asli to sustain their rights as dependents of the forest.

In order to obtain responses and feedback with regard to the participation of Orang Asli in forest conservation in Peninsular Malaysia, the researcher has conducted a meeting with JAKOA⁸⁸ at which several relevant questions and issues were discussed.⁸⁹ In this meeting, JAKOA said that they are not in charge of the forest conservation programme with Orang Asli, and the jurisdiction over forest conservation belonged to the forestry department. They kept explaining that they are only responsible for organising and arranging development programmes for Orang Asli, namely '*Program Mesra Minda*' (Brain Friendly Programme)⁹⁰ and a joint venture in a rubber plantation with RISDA (Rubber Institute Development Association); this programme is specifically designed for Orang Asli to expand their livelihoods.⁹¹ There is also a programme which provides organized infrastructure and facilities in order to cater for the living needs of Orang Asli; it is known as the Relocation Programme⁹², and many other development programmes for Orang Asli have been arranged by JAKOA.

To appreciate the relationship between Orang Asli and forest, JAKOA also elaborated on Orang Asli's source of earnings. For generations, Orang Asli have been practising shifting cultivation, hunting, fishing and trading⁹³; only now have they begun to get

⁸⁸ JAKOA (Development of Orang Asli Department) is a federal government agency in charge of development of Orang Asli in Peninsular Malaysia. Previously known as JHEOA (Orang Asli Affairs Department).

⁸⁹ See Appendix III (c).

⁹⁰ In this programme, a meeting of twice or once a year for the purpose of dissemination of new policy is conducted between *Tok Batin*, *Tok Penghulu* (both are leader of *Orang Asli*) and JKKK (Rural Development Committee Chairman) with the presence of the Director General of the JAKOA.

⁹¹ Programme under the Brain and Land Development Unit of JAKOA. Meeting with JAKOA on 21st Oct. 2011.

⁹² *Ibid.*

⁹³ Prior to the 19th century, Orang Asli established trading relationships with local and international market traders – barter exchange. During that time, Orang Asli were the main collectors of forest products i.e. camphor, beeswax and resin, gutta percha (European demand)- international demand of forest product i.e. gum, camphor, ebony, elephants' tusks, rattan, sandalwood, gaharu wood and beeswax. See Newbold in Fui, Lim Hin, *Orang Asli, Forest and Development*, (FRIM: Kuala Lumpur, 1997) 19-21.

involved in various other activities, namely agriculture,⁹⁴ tourism⁹⁵ and salaried occupations such as employment with the timber contractor, while a minority of them are working in the administrative sector of the JHEOA, as shown in Table 6.3.⁹⁶ The table shows that only one person is employed in the office of Management and Professionals, while the other 305 posts are the position of Office Assistant I and II.

Table 6.3: Position of staffing and vacancy in Department of *Orang Asli* Affairs, 2008

Post	Total of post	Staffing	Vacancy	%	Orang Asli	%
Management and Professional	49	26	23	53	1	2.7
Office Assistant I	815	688	127	84	304	22
Office Assistant II	513	463	50	90		
Total	1377	1177	200	85	305	22

Source: *Data Maklumat Asas Jabatan Hal Ehwal Orang Asli Tahun 2008, Bahagian Perancangan dan Penyelidikan JHEOA.*

From the above table, it is obvious that one third of the posts of Office Assistant I and II are occupied by Orang Asli; these posts are responsible for forest operations and technical work whereas only one person occupies a professional post. Hence, in this matter the Department might be said to be detached from Orang Asli as the dominance of the non-indigenous staff can be clearly seen; hence, the interests and plight of Orang Asli are not being transparently represented at the national level.⁹⁷ Thus, the Department is only seen as the ‘administrative arm of the executive government’ rather than performing duties and responsibilities for managing and representing Orang Asli’s affairs and interests.⁹⁸ In an article by the Center for Orang Asli Concerns (COAC) it is stated that the holders of traditional knowledge should be involved in the management

⁹⁴ Vegetable farms are now actively growing, for instance in Lojing, Kelantan and in Cameron Highlands, Pahang. (Source: Meeting with JAKOA on 21 Oct. 2011).

⁹⁵ Orang Asli are also employed as porters or tourist guides in the National State Park. Meeting with JAKOA on 21 Oct. 2011.

⁹⁶ See note 84 at 2.

⁹⁷ Cheah, W L, ‘Sagong Tasi and Orang Asli Land Rights in Malaysia: Victory, Milestone or False Start’, 2004 (2) Law, Sial Justice & Global Development Journal (LGD), 28 Feb. 2005, 21 April 2012 <http://www.go.warwick.ac.uk/elj/lgd/2004_2/cheah>.

⁹⁸ *Ibid.*

of protected areas; the writer further stressed that the practices of Orang Asli should be recognized so that Orang Asli will be willing to share their traditional knowledge.⁹⁹ Thus, with their vast experience and forest knowledge, Orang Asli¹⁰⁰ should be given greater responsibility, such as being appointed co-managers of the protected area.

Regarding the participation of Orang Asli in forest conservation, JAKOA believes that, because of Orang Asli's dependency on the forest, most of their practices have indeed contributed to forest conservation. Hence, JAKOA has asked Orang Asli to cooperate with them in safeguarding their traditional knowledge and practices according to Orang Asli's own ways. For example, Orang Asli are herbal experts in forest that produces many products for medicinal purposes, food products, personal care products and other useful benefits from herbs.¹⁰¹ Thus, Orang Asli's practices are vital to preserve those herbs. JAKOA has also requested cooperation from Orang Asli to safeguard the forest, especially water catchment areas, from being encroached upon by illegal loggers because logging activity could later contribute to the deterioration of the quality of clean water resources of Orang Asli. JAKOA also further expressed their concern that Orang Asli are sometimes manipulated by profit-oriented parties interested in forest herbs.¹⁰²

From the aforementioned JAKOA responses it seems that JAKOA observes the participation of Orang Asli in forest conservation in a personal or individual capacity rather than foreseeing the capabilities and aptitudes of Orang Asli from a different angle. In this matter, Colin Nicholas¹⁰³ outlines the following suggestion for the participation of Orang Asli in forest management.

⁹⁹ See note 77.

<http://www.coac.org.my/codnavia/portals/coac2/code/main/main_art.php?parentID=114> p

¹⁰⁰ Nicholas, Colin, *For the Good of All Indigenous People and Biodiversity*, published in the Star (Environment), 3 February 2004, 4.

¹⁰¹ See note 78.

¹⁰² *Ibid.*

¹⁰³ Dr Colin Nicholas is the coordinator of Center of Orang Asli Concerns (COAC).

- Access to development benefits
- Opportunities to improve their economic standing
- Continued resource use rights to their traditional territories at least until other alternatives or opportunities are able to allow them to substitute such resources.¹⁰⁴

It is also suggested that community leaders from Orang Asli or organisers should be trained to become knowledgeable about Orang Asli's culture and also the modern world.¹⁰⁵ Nicholas also stressed that, without recognition by the relevant authorities and communities, the real prospect of participation by Orang Asli is meaningless.¹⁰⁶ He further stated that mere interaction and meetings cannot be considered public participation because the real needs and issues of Orang Asli are not being appropriately addressed. Indeed, cooperation between forest authorities and the Orang Asli is absolutely vital in the field of forestry in ensuring effective management of protected areas.¹⁰⁷ Cooperation or productive partnership refers to Orang Asli's contribution to their awareness of making their area part of the national heritage and the government supports them by providing benefits for the people living there.¹⁰⁸ Orang Asli should not be abandoned without providing them with alternatives to their basic needs whilst imposing new rules on them in newly-gazetted protected areas.¹⁰⁹ The Wildlife Conservation Act 2010 however, provides the rights for Orang Asli to hunt the protected wildlife for the purpose of family sustenance provided that the wildlife hunted could not be sold or exchanged for food or monetary.¹¹⁰ Thus, conflicts between the forest stakeholders and protected area management should be avoided.¹¹¹

¹⁰⁴ See note 77.

¹⁰⁵ *Ibid.*

¹⁰⁶ *Ibid.*

¹⁰⁷ Nicholas, Colin, "Who Can Protect Forest Better? Pitching Orang Asli against Professionals in Protected Area Management in Peninsular Malaysia", *International Symposium on Eco-Human Interactions in Tropical Forest*, (Kyoto University, 13-14 June 2005).

¹⁰⁸ See note 77.

¹⁰⁹ *Ibid.*

¹¹⁰ Laws of Malaysia The Wildlife Conservation Act 2010 (Act 716), section 51.

¹¹¹ *Ibid.*

Forest would not be compromised in favour of rapid development were the Orang Asli to be given a role in managing the forest, with their voices and objections considered and taken into account by project proponents when making decisions on development planning in the forest. Orang Asli should also be compensated by the project proponents or by the state government for any loss inflicted on their homelands. Several cases indeed support this point, such as in the cases of *Adong bin Kuwau*¹¹² and *Sagong Tasi*¹¹³ where the court recognized the rights of the aboriginal people to be compensated for their loss. In the former case, the court decided in favour of Orang Asli as it held that the rights of Orang Asli are also vested under the common law and are not limited to the Orang Asli Act. The court stressed that the compensation is intended to cover everything regarding the Orang Asli's rights to their land.¹¹⁴ The state's act of depriving others of their livelihoods should be resolved by giving adequate compensation pursuant to Article 13 of the Federal Constitution.¹¹⁵

This remarkable approach was reiterated in the latter case of *Sagong Tasi* when the Federal Court finally ordered RM 6.5 million to be paid immediately to Orang Asli in compensation for 38.47 acres of land that was forcibly acquired by the government in 1995.¹¹⁶ The monetary compensation in the *Sagong Tasi's* case thus covered the exhausting 14 years of court proceedings endured by 26 families of Orang Asli Temuan in Kampung Bukit Tampoi. Their dwellings and crops were forcibly taken and destroyed to make way for the Nilai-Banting highway construction linking up with the Kuala Lumpur International Airport-KLIA¹¹⁷; at that time, Orang Asli Temuan had only

¹¹² *Kerajaan Negeri Johor & Anor v Adong bin Kuwau & Ors* [1998] 2 MLJ 158.

¹¹³ *Sagong bin Tasi & Ors v Kerajaan Negeri Selangor & Ors* [2002] 2 MLJ 591.

¹¹⁴ See note 1 at 59.

¹¹⁵ See note 100. Article 13 of the Federal Constitution of Malaysia;

(1) No person shall be deprived of property save in accordance with law

(2) No law shall provide for the compulsory acquisition or use of property without adequate compensation.

¹¹⁶ Mageswari, M., RM6.5mil settlement for Temuans whose land was taken away, the Star, 27 May 2010. Koshy, Shila et.al, A Bittersweet Temuan Victory, the Star, 27 May 2010.

¹¹⁷ *Ibid.*

been given nominal compensation covering trees, fruits, crops and houses, and it was this that impelled them to bring the case to court for trial.¹¹⁸

However, the reluctance of the Malaysian government to acknowledge the existence of the native title can still be seen in the Federal Court appeal submission when the federal counsel quoted section 12 of the APA; in this regard, Orang Asli are mere tenants on the land and the authorities will only compensate for the loss of whatever was grown on the land.¹¹⁹ Therefore, this refers to the rights of Orang Asli to the items on the land (fruit trees, crops and houses) but not the land itself. This a denial of proprietary rights provided under the Federal Constitution. The federal counsel further submitted that, prior to the Orang Asli's Temuan settlement, the land belonged to Selangor Sultanate so it was not native or customary land at all.¹²⁰

Regardless of what was submitted by the federal counsel, the most important point is that the *Sagong Tasi* case set a precedent for the land rights of Orang Asli. Noting the Court of Appeal judgment in 2005 which had agreed with the High Court decision in 2002, the rights of Orang Asli under the common law and the Aboriginal People Act basically entitles Orang Asli to protection of proprietary rights under Article 13 of the Federal Constitution.¹²¹ Thus, all the Orang Asli families involved in the case were entitled to fair compensation provided under the Land Acquisition Act, the compensation rate in this Act being higher than that of the Aboriginal People Act.¹²² The learned judge of the Court of Appeal further ordered damages to be borne by the

¹¹⁸ Asian Indigenous and Tribal Peoples Network (AITPN), Orang Asli's Rights: Malaysia's Federal Court faces acid test, 19 Apr. 2012, 26 June 2006 <<http://www.aitpn.org/Issues/II-03-06-Orang.pdf>>

¹¹⁹ *Ibid.*

¹²⁰ *Ibid.*

¹²¹ Subramaniam, Yogeswaran, Common Law Native Title in Malaysia: Selected Issues for Forest Stakeholders, [2010] 1 *Malayan Law Journal* xv.

¹²² *Id* at 60.

state government because of its failure to gazette the Orang Asli land, thus breaching its fiduciary duty.¹²³

From this time, Orang Asli, who had suffered such great losses, were to be compensated for any damage and misery inflicted on them whilst the government had to guarantee that the lives and rights of Orang Asli would no longer be affected and also had to take responsibility for providing adequate infrastructure and facilities. Furthermore, factors such as cultural and social values need to be considered in drawing a clear distinction between unique native land and modern private land in determining adequate compensation for Orang Asli in the case of land acquisition by the government.¹²⁴ The purpose of adequate compensation should be precisely addressed by the court in interpreting whether the compensation is adequate in terms of monetary value only or whether the loss and depression caused by the appropriation of the Orang Asli's native land should also be considered. It is suggested that special procedural safeguards be considered in dealing with the governmental acquisition of the Orang Asli's unique native land, and these safeguards should go beyond what is provided under the Land Acquisition Act.¹²⁵

For the purpose of upholding the rights of the Orang Asli in Peninsular Malaysia, POASM (*Orang Asli Society of Peninsular Malaysia*) has responded to the JHEO proposals on policy and method of land ownership of Orang Asli. Some of the issues raised related to protected areas and Orang Asli settlements in cases where Orang Asli did not agree with proposals that they should move from the gazetted protected areas, insisting that they should remain in their areas as provided under section 6(2) (ii) of the

¹²³ *Ibid.*

¹²⁴ See note 86 at 11-13.

¹²⁵ *Id* at 12. Land Acquisition Act is not drafted to serve procedural rights of acquisition of the Orang Asli native title.

APA¹²⁶; furthermore, they stated that the gazetted areas should be cancelled if Orang Asli settlements exist in that particular area.¹²⁷

Public participation by the Orang Asli in Peninsular Malaysia is also found to be insignificant since there is no provision relating to public participation in the local legislation, namely the Aboriginal People Act and the National Forestry Act; thus, it is quite challenging for Orang Asli in Peninsular Malaysia to comprehend whether Malaysian law is complying with international arrangements which have given recognition to the rights of Orang Asli namely Article 8(j) of the CBD¹²⁸ and also UNDRIP. The UNDRIP has addressed the remarkable recognition of the rights of the native and among its key provisions is the States' recognition and acknowledgement of Orang Asli's rights pertaining to the social and economic aspects of their lives.¹²⁹ Section 38 further states that, in order to make the UNDRIP a reality, the States must consider adopting the provision in their legislation.¹³⁰ As mentioned before, pertaining to the participation of Orang Asli in forest conservation, there is no specific provision related to those remarkable declarations; thus, it is doubtful whether Orang Asli in Peninsular Malaysia will be able to benefit from these internationally recognized rights of the native.

Hence, all SFDs in Peninsular Malaysia should take appropriate measures coherent with UNDRIP in order to ensure that all Orang Asli in Peninsular Malaysia can impartially enjoy their rights, especially the rights to participate in any stage of decision-making on forest development that might affect their lives. Thus, it is worth noting a statement by

¹²⁶ Section 6(2)(ii) provided that within an aboriginal area ... (ii) no land shall be declared a sanctuary or reserve under any written law relating to the protection of wild animals and birds; ...

¹²⁷ *Persatuan Orang Asli Semenanjung Malaysia (POASM), Cadangan Balas POASM Berkenaan Dengan Cadangan JHEOA Mengenai Dasar dan Kaedah Pemilikan Tanah Orang Asli*, 27 July 2006.

¹²⁸ See note 1 at 63.

¹²⁹ Wiessner, Siegfried, Audiovisual Library of International Law, *United Nations Declaration on the Rights of Indigenous* New York, 13 Sept. 2007.

¹³⁰ *Id* at 5.

Orang Asal/Orang Asli in Malaysia that shows their hopes of and commitment to participating in the mainstream affairs of the nation.¹³¹

...We want to have effective participation in the nation's development and to walk hand in hand together with all Malaysians to reach our goals and aspirations. As we celebrate the 44th year of the Malaysian federation, let's not forget that the Indigenous Peoples had an important role during the birth of this beautiful nation.

Success in the *Sagong Tasi* case has inspired the Selangor government to plan for gazettelement of 25 Orang Asli villages.¹³² In 2008, the Chief Minister of Perak¹³³ promised to give individual titles to 48,000 Orang Asli communities in Perak. However, as the state of Perak was not then being ruled by the coalition party, these promises could not be fulfilled. Thus, it can be seen that too much interference by political parties can cause certain difficulties for Orang Asli in managing their lives.

All in all, the issue of decreasing forest coverage will not be resolved merely by granting compensation to Orang Asli because the value of traditions and customs subsisting in the native land cannot be replaced by monetary value. Thus, upholding the rights of Orang Asli on their native land could indirectly have a positive impact on forest conservation.

6.2.2.3 The Amendment of the Selangor Forest Enactment

The recent amendment to the Selangor Forest Enactment reveals a new approach by Malaysian legislation. In this amendment, the public has the right to be consulted before excision of forest reserve. This is considered a noble effort because the public is always

¹³¹ Orang Asal 2007 Statement on Malaysian Independence and Nationhood - Statement by the Orang Asli of Peninsular Malaysia and the Native of Sabah and Sarawak in conjunction with 50 years of Independence and 44 Years of Malaysian Nationhood, 18 April 2012 <http://www.coac.org.my/codenavia/portals/coacv2/code/main/main_art.php?parentID=115>.

¹³² Selangor to gazette 25 Orang Asli Villages Following Landmark Decision, *the Star*, 27 May 2010.

¹³³ Jenita Enigi, Dialog Dua Hala Masyarakat Orang Asli Dengan MB Perak Tentang Isu Orang Asli, 18 June 2008, 21 April 2012 <http://www.coac.org.my/codenavia/portals/coacv2/main/main_art.php?parentID=115>. During Chief Minister YB Datuk Seri Mohammad Nizar Jamaluddin ruled the state of Perak- this particular time when Perak was ruled by the coalition party.

neglected in this type of decision-making process. The public's quality of life depends greatly on the forest and their lives will be affected if the forest decreases in size.

The CEO of WWF Malaysia expressed his satisfaction with this amendment:

“The public has the right to know how forest resources are being managed as they are beneficiaries of the ecosystem services provided by our forests. Their contribution to the decision-making process is imperative as we are dependent on forests for our socio-economic, recreational, cultural and spiritual well-being and this is in line with the government's policy of putting people first.”¹³⁴

The state of Selangor is the first state to amend its Forestry Enactment, making a public inquiry compulsory before any forest reserve can be de-gazetted; thus, the public is free to express their suggestions, opinions and even criticisms on forest excision proposals.¹³⁵

6.2.2.4 Public Participation in the States of Peninsular Malaysia: The Fieldwork Outcomes

The researcher has conducted interviews with the State Forestry Departments' (SFD) Directors and Assistant Directors in Peninsular Malaysia in order to elicit responses and opinions on public participation in forest conservation in Peninsular Malaysia. It is significant to know and understand the extent to which public participation matters have been handled by the forest governors. From the interviews, it can be seen that all interviewees have diverse experiences and opinions to share. The majority of them refer to several factors that may contribute to the level of public participation in forest conservation, namely the geography of the state, the economy activity of the state, the public lifestyle and the SFD's approach to the public; these are all addressed in this

¹³⁴ *Public Participation in Forest Management is the Way Forward*, 17 June 2011, 1 Nov. 2011 <<http://www.wwf.org.my/?12722/Public-Participation-in-Forest-Management-is-the-Way-Forward>>

¹³⁵ Selangor passes two key reform bills, 18 May 2011, 1 Nov. 2011 <<http://www.malaysiakini.com/news/160311>>.

section with reference to each state of Peninsular Malaysia. The questions for this purpose are attached in the Appendix II (c) of the thesis.

In Perlis, the majority of the public or villagers reside close to forest areas, most of which belong to the state government. According to the Assistant Director of Perlis SFD, the most common forest issue occurring in the state of Perlis is the encroachment on the state government land by the villagers, who can easily plant their crops within the state government forest area and also clear and burn the area without permission from the authority (SFD). Problems also exist with the older villagers aged 60-70; they tend to have low environmental awareness and have traditionally cleared vegetation and harvested crops within the forest area. Basically, the villagers are allowed to plant fruit trees but they are not permitted to cut down the trees and clear the area; this is made clear by the SFD's notice at the forest entrance warning people not to cut down trees and stating the punishment should they be prosecuted and found guilty.¹³⁶ Nevertheless, according to the Assistant Director of Perlis SFD, the authority occasionally conducts a Customer's Day (*Hari Bersama Pelanggan*) on Fridays to show their concern with and commitment to forest education and public awareness. On these days, the public are informed about the forest rules and the punishment should they break the law.¹³⁷

The Director of Johor SFD observed that the level of public awareness of the forest environment is exceptional because information and knowledge on the forest are easily accessible; nowadays, a variety of printed and electronic media are made available to the public. According to the Director, there is a great deal of work to be done and public pressure is also quite tough. He also mentioned public awareness of the amended provisions of the National Forestry Act regarding the penalty and imprisonment

¹³⁶ Interview with Assistant Director of the Perlis SFD on 25 Apr. 2008.

¹³⁷ *Ibid.*

increment. He stated that there has been a drastic reduction in the amount of illegal logging in the state of Johor; this has had a positive impact on the forest and can also be considered a measure of the success of the drive to provide awareness to targeted public groups and the dissemination of the government's message about dealing with forest offences. The department has also conducted a series of campaigns, for instance "to love forest campaign" (*Kempen Sayangi Hutan*); in this campaign, the public were exposed to the significance of the forest and also mangrove conservation. He believed that, in spreading knowledge on the significance of conserving the forest, the NGO is continuously supporting and assisting the forestry department and they are always proactive in disseminating issues and developments pertaining to forest and the environment.¹³⁸

The state of Penang has a high population density although, like the states of Perlis and Malacca, it is smaller than other states in Peninsular Malaysia. The Director of SFD of Penang noted that the department has conducted a series of public campaigns, for example an environment awareness campaign, mangrove awareness campaign, campaign for schoolchildren pertaining to forest environment, planting trees campaign and many others. He felt that the NGO in Penang is very supportive as they always give their commitment to any programme conducted by the department. He also said that, nowadays, the public can easily access information from many sources as all the information is at their fingertips. He also commented on provocative statements made by members of the public on the Internet through personal blogs and social networking sites; he felt that, although the statements were hostile to the department, accusing it of being inefficient in managing the forest, he treated them as constructive advice for the department to improve.¹³⁹ With regard to the forestry department's publicity on forest

¹³⁸ Interview with Director of the SFD of Johor on 22 Apr. 2008.

¹³⁹ Interview with Director of the SFD of Penang on 17 Apr. 2008.

programmes, he said that dissemination of forest information is very fast in Penang. When the department launches forest activities and programmes, the Chinese newspaper and *The Star* newspaper are always present during any arranged occasion. He also expressed his view on the public's misperception of forest data and information. For example, the department received public complaints about quarry operations in gazetted forest reserve when, in fact, the quarry had already been approved by another government agency before that area of forest was gazetted by the forestry department. This had given the forestry department a bad reputation. Another example was a complaint about the felling of one or two aquilaria (*karas*) even though about 2000 ha of aquilaria trees have been conserved by the forestry department in a conservation area. As a result of the complaint, the image of the forestry department had been damaged.

The Assistant Director of the SFD of Perak explained that they have arranged specific days for public meetings. At these meetings, the department involves the public in the dissemination of forest knowledge by conducting campaigns and briefings, for instance the World Forest Day (*Hari Perhutanan Sedunia*). He also revealed an incident when his staffs were approached by Orang Asli during a pre-F (pre-felling) procedure. The Orang Asli had accused them of encroaching on their area; this showed that Orang Asli are now started to understand their rights. He also further explained that, at the discretion of the department, the Orang Asli are free to remove and sell forest produce without permits.¹⁴⁰

With regard to the public and the forest, the Director of the SFD of Terengganu is more interested in discussing public involvement in forest industries; according to him, most members of the public involved in forest industries are locals. The locals are employed

¹⁴⁰ Interview with Assistant Director of the SFD of Perak on 25 Feb. 2009.

as contractors or forest staff. With regard to the taking of forest produce from reserve forest area, including by Orang Asli, the department issues permits for domestic purposes and licenses for commercial purposes. As for public consultation, according to him the forest officer is easily accessible and the department has forest offices in every district and rangers in remote areas.¹⁴¹

In Selangor, the SFD has an expansion programme specifically arranged for the public.

The programme activities are as follows:

- Involving the public in tree-planting activities;
- cooperating with the Department of Education to introduce forest knowledge and information into the school curriculum; and
- cooperating with the NGOs in all forest activities.

At the national level, the department is a member of or party to international conventions and forums on climate change, biodiversity conservation and forestry matters. Public participation has been stressed in these international arrangements and Malaysia must comply with them. The Director of the Selangor SFD stressed that the level of public participation can be upgraded through internationally recognized forest certification; he also opined that the level of public awareness of forest has improved in the recent years, with the public starting to request information about illegal timber, sources of clean water and many other forest-related issues.¹⁴²

The Assistant Director of the Negeri Sembilan SFD has a simple explanation for the public's participation in their managed forest area. Every year in the month of June, which is during the school holidays, the department invites 100 schoolchildren all over

¹⁴¹Interview with Director of the SFD of Terengganu on 9 Feb. 2009.

¹⁴² Interview with Director of the SFD of Selangor on 6 Feb. 2009.

Negeri Sembilan to a forest camp (*perkhemahan cinta hutan*). For the public at large, the department organizes forest and agricultural exhibitions and briefings on the significance of conserving forest. The department also educates the public through recreational forests, providing forest information and knowledge within the forest area and indirectly educating the visitor. Further indirect forest education is offered through NGOs' research activities on forest sites.¹⁴³

The forest programme practised by the SFD of Negeri Sembilan has also been practised by the SFD of Kelantan. The Assistant Director of the SFD of Kelantan, however, commented on the public level of forest environment awareness, stating that public awareness is growing, especially with regard to illegal logging, clean water resources and non-compliance with forest law. This is based on the increasing number of public complaints to the department. He also stated that the department is no longer alone in monitoring the forest environment as the public and the media have also shown an interest through their complaints and news items and these have greatly assisted the department.¹⁴⁴

According to the coordinator of *Sahabat Alam Malaysia* (SAM), public awareness of forest destruction is still very low. The public in urban areas, especially children, still do not understand the function and contribution of forest and cannot see the importance of forest in their daily lives. However, he felt that public awareness has improved a little but there is still much more to be done. He also explained that SAM is an issue-oriented organization rather than a conservation- or management-oriented organization. Hence, SAM's programme is more geared to advocacy; thus SAM assists the community with

¹⁴³ Interview with Assistant Director of the SFD of Negeri Sembilan on 30 Apr. 2008.

¹⁴⁴ Interview with Assistant Director of the SFD of Kelantan on 12 Mar. 2008.

environmental issues. Nevertheless, SAM is also involved in independent programmes such as rehabilitation of mangrove forest and other forest in the community.¹⁴⁵

Thus, from the above-mentioned discussion of public participation in every state in Peninsular Malaysia, it can be said that the level of public awareness of forest issues and the environment is increasing due to various sources and channels of information for the public to access the facts and issues rather than relying solely on official information from government channels in print and electronic media. Public queries and responses on certain forest issues reflect the level of awareness and depth of thought. With regard to Orang Asli's participation in forest, even though their understanding of their rights over their land is growing, their settlements have been surrounded by development which has affected their quality of life. Orang Asli are also treated differently by the different forestry departments: in some states they can enter the forest without a permit but in others they have to apply for permits. This is because forest is under the states' governance and it is at each state's discretion to grant permits for entering the forest or not.

6.3 Factors that impede public participation in forest conservation in Peninsular Malaysia

The aforementioned discussion has led to the understanding that in terms of upholding transparency and integrity, public participation is seen as a medium for the public to express ideas, suggestions and criticisms. However, project proponents have seen this as hindering their progress. The public cannot really participate because of the ambiguity of the legal content such as provisions contained under the EIA and the absence of public participation provision under the National Forest Act 1984 and its Policy. Thus,

¹⁴⁵ Interview with Coordinator of the Sahabat Alam Malaysia on 1 Oct. 2007.

this section discusses further factors that impede public participation in forest conservation in Peninsular Malaysia.

6.3.1 The State and Local Government Approach

The approach by the state and local government reflects good practice in the administration and a good quality of management. Should the authority act appropriately, there will be few complaints from the public. The overlapping of jurisdictions among different government agencies also leads to various issues, with the public sometimes trapped in the middle.

Pertaining to environmental information management, the government authority is subject to the Official Secrets Act 1972.¹⁴⁶ The public sometimes finds it hard to access and obtain real information on environment that could affect their lives because of the restrictions contained in the Act.

The relationship between federal and state governments also causes issues when resources, including forest as stated under the Federal Constitution, are under the state's jurisdiction¹⁴⁷ whereas the federal government has jurisdiction over Environmentally Sensitive Areas (ESA) which are governed by the National Physical Plan. This complicated relationship sometimes contributes to the obscurity of the approach by the state and local government, thus affecting public understanding of forest environment.

With regard to the Orang Asli, there are a number of laws that could relate to the issue of their status even though there is no direct provision on the issue, for instance National Land Code 1965 (Act 56), Land Conservation Act 1960 (Revised 1989) (Act 385), Land

¹⁴⁶ See note 38 at 39.

¹⁴⁷ Schedule 9, Second List of the Federal Constitution.

(Group Settlement Areas) Act 1960 (Revised 1994) (Act 530), Wildlife Conservation Act 2010 (Act 716), National Parks Act 1980 (Act 226) and the Aboriginal Peoples Act 1954 (Revised 1974) (Act 134). However, it is up to the relevant authorities to interpret and acknowledge these provisions for the benefit or to the detriment of Orang Asli.¹⁴⁸

The political state of affairs of the state government also has an impact on the approach of federal and state governments. For example, a state governed by the coalition political party will have a different approach from a state ruled by the government. The state of Selangor, for example, has taken a step further than the other states in amending its Forestry Enactment pertaining to the obligatory duty of the state government to conduct a public consultation before degazetting forest reserve. The state of Selangor has also shown its support in recognizing and acknowledging Orang Asli's rights to their native land in the case of *Sagong Tasi* as, in April 2009, the Selangor state government withdrew its appeal to the Federal Court.¹⁴⁹ The state government has also urged the federal government to commit to international arrangements for recognition of Orang Asli's rights and to hold consultations with Orang Asli before passing any law.¹⁵⁰

6.3.2 Level of Awareness and Attitude of the Public

In recent years, public awareness of the environmental scenario has been growing compared to previous years. The public have started to question and search for the truth and instead of relying on the official news in the government media they have started to obtain environmental information from internet sources that provide unlimited information.

¹⁴⁸ Nicholas, Colin, The Law on Natural Resource Management As It Affects Orang Asli, *the UNDP-RIPP/PACOS Workshop on Indigenous Peoples and Natural Resource Management Laws*, (Donggongan, Sabah, 10 Nov. 2005).

¹⁴⁹ Wong, Elizabeth, *Sagong Tasi land rights case conclusion – Selangor Pakatan Rakyat Government Statement*, 26 May 2010, 21 April 2012 <<http://www.rengah.c2o.org/news/article.php?identifier=de080lt>>.

¹⁵⁰ *Ibid.*

In a study conducted by the Malaysian Science and Technology Information Centre (MASTIC) in 2002, there was a positive increment on public awareness of environmental knowledge. It is clear from Table 6.4 below that the public's knowledge of forest environment (question A) increased tremendously in just two years, from 18.8% in 2000 to 54.3% in 2002. This represents positive progress for environmental protection because, if the public has started to develop a high level of environmental awareness of forest, there is hope for the forest's survival for more years.

Table 6.4: Understanding of the Environmental Terms and Concepts

No.	Question	Percentage answering correctly			
		2002	2000	1998	1996
A.	Acid rain damages the forest. (True)	54.3	18.8	15.3	9.2
B.	Hole in the ozone layer can cause skin cancer. (True)	57.4	19.1	15.9	9.6
C.	Sea level can decrease due to global warming. (False)	12.7	6.7	5.1	3.0
D.	The greenhouse effect can raise sea level. (True)	30.3	9.9	6.8	4.3
E.	The use of LPG by motor vehicles can reduce air pollution. (True)	37.7	27.5	25.2	17.9
	Mean Percentage Correct	38.5	16.4	13.7	8.8

Source: MASTIC, 2003 in Sahabat Alam Malaysia, 2006.

Nevertheless, bad habits die hard and there are always people who do not want to comply with the environmental rules and regulations. The poor environmental awareness of such people is exemplified by the fact that their reasons for non-compliance with the law are always concerned with cutting projects' operational costs.

6.4 Recommendations for Public Participation in Forest Conservation in Peninsular Malaysia

Public participation is an accurate channel for people to raise any doubts about activities or projects in the forest that may affect their lives. Despite there being several grounds for hindering public participation in forest conservation, the recommendations below may provide some ideas and ways in which the public can easily become involved or participate, especially in decision-making processes in the forest environment.

6.4.1 The Approach by the State and Local Government

The approach that has been practised for years is the “top-bottom” approach where professional views and opinions are considered relevant but usually cause dissatisfaction among the public at large. The “bottom-top” approach practised by local community groups is considered significant and capable of producing better decision-making processes compared to current practice.¹⁵¹

It is vital that the voice and opinions of the public are taken into consideration, especially by those in authority; this will show the openness and transparency of the government in dealing with environmental issues where the quality of public life is the main concern.

6.4.2 Amendment of the National Forestry Act and its Policy

The National Forestry Act and its Policy have been designed to meet the aim of sustainable forest management. However, there is no provision relating to public participation in the decision-making process related to the survival of forest. The only

¹⁵¹ See note 134. See also Samuel Ong, “The Green Debate”, *Star Metro Central*, 2 Oct. 2012.

provision relating to the public is concerned with recreational forest and community forest which have more to do with forest education than involving the public in forest planning and activities. In this regard, the state of Selangor should be praised for its efforts to amend their forest legislation to include the right of the public to be consulted by the authority before any reserved forest can be degazetted.

6.4.3 Improvising Legal Provision

The right of the public to participate is stated under the EIA; however, the public can only participate in the Detailed Assessment stage, and the possibility of public involvement in this particular stage is limited. It is limited because only a small section of the public has the necessary scientific and technical knowledge and background to constructively comment upon and suggest the detrimental effects of the project on the environment; most members of the public would merely submit protest letters. This occurred in the case of the Sungei Selangor Dam EIA Report when the Department of Environment (DOE) received more than 200 letters, only 18 of which commented on the scientific and technical consequences of the project for the environment; the remainder was protest letters.¹⁵²

The authority should produce accessible documents related to the EIA process, and the public should receive an explanation of the technical parts of the Detailed Assessment Report. The document also must be accessible to those living in rural areas as most of the forest projects affect these remote communities.

Besides the EIA process, the binding effects of local and structure plans under the National Physical Plan are also debatable. The plan has been beautifully drafted and

¹⁵² Adzidah Yaakob, Public Participation in Conservation of Forest Biodiversity: A Special Reference to Peninsular Malaysia, Department of Geography University of Aegean, The International Conference Studying, Modeling & Sense Making of Planet Earth, June 1-6, 2008, CD ROM. (Lesvos, Greece: Department of Geography University of Aegean, 2008).

implemented but there are no legal consequences of non-compliance with the plan. The plan only serves as a planning procedure that is subject to possible changes.¹⁵³

6.4.4 Recognition of the Public's Rights to Environmental Information and Free, Prior Informed Consent

The right of access to environmental information has been widely accepted all around the world. The right to information should be respected, especially by states practising democratic systems of governance. This right has been described by Justice Kate O' Regan as "sunshine" that "helps society to hold government and various public officials accountable for their activities".¹⁵⁴ This opinion could also be applied and practised by those states in order to ensure transparency and integrity among their public authorities.

The right of access to environmental information which is linked with public participation is embedded in Principle 10 of the 1992 Rio Declaration for Sustainable Development.¹⁵⁵ Thus, the government is obliged to publicise this right to its citizens so that all people are aware and able to exercise the right accordingly.

Expressions of frustration by communities regarding local governments' environmental authorities have lately been displayed in the mass media. Toxic and industrial waste disposal, emission of hazardous gasses from industry and factories, illegal logging, landslides, flooding, et cetera are issues that constantly affect the quality of lives of the community living nearby.

¹⁵³ See note 145.

¹⁵⁴ See note 38 at 5. Justice O' Regan is a member of the South African Constitutional Court.

¹⁵⁵ *Id* at 7, 28.

In order to protect and defend the environment, several community groups have been set up as a result of lack of trust in local governments' control and enforcement capability. These community groups monitor and protect the environment from being destroyed by illegal activities and industry.¹⁵⁶ Community-based environmental activists in Peninsular Malaysia have been working together with Sahabat Alam Malaysia. They are known as ASAS (*Angkatan Sahabat Alam Sekitar*/Friends of the Environment Movement).¹⁵⁷ This 'bottom-top' approach can easily reach the public especially in rural areas and low-income groups; thus, environmental information is not limited to the urban high-income groups.¹⁵⁸

Activities conducted by ASAS groups are as follows:¹⁵⁹

- Conducting surveys and monitoring environmental issues and solutions in their villages, local areas and towns;
- Recording and attending to environmental-related complaints and ideas that may stem from the local community;
- Acting on complaints including writing letters and holding meetings and dialogues with relevant government agencies;
- Acting as watchdogs by complaining to the government authorities about environmental violations and non-compliance with environmental laws;
- Conducting education and awareness-raising activities for local communities including environmental campaigns such as waste recycling and reduction;
- Issuing press releases and conducting press conferences to publicise environmental issues and problems in their neighbourhoods;
- Working to secure cooperation to develop environmental strategies and solutions together with the Federal, state and local governments and relevant agencies.

The above-mentioned activities conducted by these respective community groups should be considered by other local community-based environmental activists in order to produce the best outcome in monitoring their environment. These community groups have devised such activities because they have past painful experiences of being victimised by non-compliant project proponents and inefficient local government

¹⁵⁶ Sahabat Alam Malaysia, *Malaysian Environment in Crisis*, (Sahabat Alam Malaysia: Penang, 2006), 193.

¹⁵⁷ *Ibid.* There are ASAS Kedah: Merbok and Kerpan, ASAS Pahang: Chini FELDA Scheme and Orang Asli, ASAS Perak: Sungei Siput, ASAS Seberang Perai and Penang.

¹⁵⁸ *Ibid.*

¹⁵⁹ *Id* at 196.

authorities, thus leading them to manage and administer their own environments.¹⁶⁰ Should the right to environmental information be exercised, such painful experiences will be relegated to the past.

Hence, recognition of the right to access environmental information and the right to free, prior and informed consent are significant for the public who wish to participate in the planning process. This is because the public have long been denied any involvement in the decision-making process even though the provision for public participation already exists under the relevant law.

6.5 Conclusion

In recent years, forested areas have been cleared for the purpose of development; trends of population and urbanization could also give significant impact to forest.¹⁶¹ The most populous states such as Selangor and Johor indeed need large areas to accommodate building for residential and business purposes. However, in a simple observation it can be said that the states with the lowest urbanisations level such as Kelantan, Pahang and Perlis are able to sustain their forests as compared to the states that are so much affected with urbanisations such as Selangor and Pulau Pinang. Indeed in any situation, it is the role of the state government to ensure that their forests could be sustained. Thus, the size of the population indeed plays a significant role in upholding the rights of the public to participate in forest development activities or projects.

From the aforementioned discussion, the right for public to participate is indeed provided for in the law and policy; however, it seems that this concept is not acknowledged in practice. In this particular situation, public consultation or

¹⁶⁰ *Id* at 194.

¹⁶¹ See para 6.1.1.

participation has always been neglected by the authorities on the grounds that public consultation may impede or obstruct progress of the development project.¹⁶²

Therefore, it will remain as a mere instrument due to defects in the law and regulations; meanwhile the level of public awareness is quite low and the public is also largely lacking in experts.¹⁶³ In certain states of Peninsular Malaysia, namely Pulau Pinang and Selangor, the public have started to request information on forest environment from the forestry departments, especially resources of clean water, recreational areas and green cover.¹⁶⁴ This indicates positive progress in public awareness of forest environment.

The rights of the public regarding, in this particular study, forest conservation, have been jeopardized in terms of the real effects of the participation. The mere process of public participation nowadays seems to satisfy the procedural effect rather than its outcome. Were this instrument to be justly administered by the relevant authority, our natural heritage would be sustained and preserved for existing and future generations to benefit. This is in conformity with Article 8(j) of the CBD which suggests that the indigenous knowledge can ensure the survival of forest environment.¹⁶⁵ In this matter, cooperation with the Orang Asli environment should be resilient in order to ensure sustainability of forest environment.

Indeed, the public is concerned about their rights to participate and to be involved in the planning process, and the rights to access environmental information and also the right to FPIC are also significant¹⁶⁶ as the lack of these rights would affect the public's quality of life. This has been seen in the aforementioned issues such as the loss of green

¹⁶² See note 152.

¹⁶³ See note 30 at 126. The author is referring to public participation in EIA in Malaysia.

¹⁶⁴ See para 6.2.2.4.

¹⁶⁵ See note 86.

¹⁶⁶ See para 6.2.1.

cover and also from feedback and responses from the interviews conducted by the researcher. It is crystal clear that the public nowadays can easily gather fresh and quick information and will no longer wait for or rely on official information which sometimes takes a long time to reach them. Therefore, it is a challenge for the environmental authorities, particularly the government, to ensure that the public are given space and opportunity to participate and become involved in the planning process. Thus, this matter indeed reflects the integrity and great accountability of the government if the rights of public participation are to be justly and effectively administered.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

7.1 Introduction

Even though all SFDs are subject to the same forest law and policy at the federal level, the practices utilised to sustain the forest for future years cannot be totally standardized. This is because factors such as geography, population composition, availability of natural resources and state government approach are seen to contribute to differences in forest practices.¹ It has also been proved that forest is indeed an environmental substance that needs to be diligently conserved because forest in Peninsular Malaysia is decreasing at an alarming rate. Regrettably, forest has been deteriorated by the actions of humans, who are supposed to take care of it. Thus, unified approach to forest by the state and federal level should be holistically viewed.²

It has been revealed that forest was once the most important source of financial revenue for Peninsular Malaysia.³ Forest achieved such a ranking in terms of generating profits and revenue because of its merchantable value on the world market. Nonetheless, the current situation is slightly different as forest has now begun to be seen as a matter of environmental concern because of its decrease in size.⁴ Despite such concerns, forest coverage is still decreasing.⁵ Thus, the shifting of the government's forest agenda from a revenue resource to an environmental concern has at least opened up the prospect of the forest being comprehensively conserved.⁶ Therefore this new paradigm needs

¹ See Chapter 2, Chapter 3, Chapter 5, Chapter 6.

² See Chapter 2, Chapter 5. See also Hammond, Don, *Commentary on Forest Policy in the Asia-Pacific Region (A review for Indonesia, Malaysia, New Zealand, Papua New Guinea, Philippines, Thailand and Western Samoa)*, (Thailand: Asia-Pacific Forestry Commission, 1997), 43.

³ Interview with Director of Forest Management Unit, Forestry Department Peninsular Malaysia on 28 Feb. 2008. See Chapter 3 Para 3.1. See also Jamal Othman, *Linking Currency Depreciation and Agricultural Land Demand*, 25 July 2009 <<http://www.econ.upm.edu.my/~peta/jamal/jamal.html>>. See also N.S. Subramaniam and A.V.S.S. Sambamurty, *Ecology*, 2nd ed., (Oxford: Alpha Science, 2006), 24.13.

⁴ See Chapter 2 para 2.1. See also Chapter 3 para 3.1.2.

⁵ Arshad Ayub, National Agricultural Policy and Its Implication on Forest Development in the Country, *The Malaysian Forester* 42(4): 348-353 (1979) at 349. See Chapter 1 Pic. 1.1 and 1.2. See also Chapter 2 para 2.1.1., Table 2.1 and 2.2.

⁶ See Chapter 3 para 3.1.2.

serious attention in its implementation; otherwise, it may serve merely as the completion of an official submission or report rather than upholding the real functions of forest.

Since forest provides enormous benefits that no other living thing can provide but is at the same time facing severe threats and challenges,⁷ a holistic approach from the Environmental Law perspective should be introduced in order to safeguard the environment.

After supplementing a discussion on forest law and policy with a number of contemporary legal issues relating to forest, it is worth highlighting some important points in order to response to the objectives of the study. Therefore, this concluding chapter aims to incorporate several important points from the previous discussion chapters in order to examine the application of the Environmental Law principle in the forest conservation practices and approach in Peninsular Malaysia.

7.1.1 Main Factor of Forest Destruction in Peninsular Malaysia⁸

It is found that the main factor of PRF destruction in Peninsular Malaysia is neither licensed logging nor illegal logging due to forest management practice of the SMS and also indirect positive outcome of the MC&I⁹ even though human factor including social impact on environment is not being a consideration.¹⁰ Nonetheless, the main factor of forest destruction in Peninsular Malaysia is forest clearance in a large scale for various

⁷ See Chapter 1, para 1.1.2, See Chapter 2 para 2.4.

⁸ This finding has justified the first objective of the thesis.

⁹ See Chapter 5 para 5.2.1.3 (c).

¹⁰ *Ibid.*

development activities purposes for instances the expansion of large-scale agricultural and vegetable plantations, rapid land development and forest fires.¹¹

7.1.2 Complex Relationship between Forest Stakeholders¹²

As provided under the Federal Constitution of Malaysia, forest is under the jurisdiction of the states. The federal government provides technical advice whilst monitoring forest activities and forest data. This has been endorsed by the National Forestry Council in the process of standardization of forest law.¹³ Hence, it is understood that the future of forest in Peninsular Malaysia lies in the state government's aspiration and favour upon forest; either to sustain forest for production or for protection.¹⁴ This state government's aspiration is executed by the trained and skilled forest officer of the State of Forestry Departments.¹⁵ Nonetheless, the expertise of the forest officer is much contributed to operational aspect of forest rather than environmental aspect of it.

The other forest stakeholders especially those involve in developing forested land are also found to contribute to the complex relationship among forest stakeholders. The sense of integrity decreases with the violation of rules related to protection of forest environment such as failing to submit and follow the procedure of the EIA Report, violation of conditions of forest licenses, permit etc. due to inclination in getting billions of profits from the development project.¹⁶

¹¹ See Chapter 2 para 2.4.

¹² Fulfilling the second objective of the thesis.

¹³ See Chapter 3, para 3.1.

¹⁴ See Chapter 3, para 3.2.1, 3.4.

¹⁵ *Ibid.*

¹⁶ See Chapter 4, para 4.4.4.

Thus, the application of the Environmental Principles of intergenerational equity in forest conservation needs to be taken into consideration by the forest stakeholders in ensuring forest and its environment could be sustained for future generation to cherish.

7.1.3 Ambiguous Provisions under Forest Law and Policy¹⁷

The existing forest law and policy, for instance the National Forestry Act and its Policy, set out general provisions on forest governance and administration rather than provisions on environmental needs and perspective.¹⁸ The states' authorities clearly have wide powers, especially in the excision of the PFE; should this discretionary power be exceeded, the area of PFE will be difficult to maintain.¹⁹ The State Authority has to satisfy only two requirements in order to excise permanent reserved forest. The requirements are, firstly, that the PFE is no longer seen to be serving the purpose categorized under section 10 of the Act and, secondly, that economic purposes are deemed more important than the existing purpose.

Another ambiguous term in the forest legislation is the use of the terms Permanent Reserved Forest (PRF) and Permanent Forest Estate (PFE). The term PRF is stated under the NFA while the term PFE is provided under the NFP. This issue has been addressed by the Director of Selangor SFD who said that the differences between the terms are not particularly significant and the most vital part is the term "permanent"; permanent here refers to permanent land use.²⁰ Thus, permanent does not mean permanently reserving some parts of the forest; on the contrary, permanent land use in forestry means that the forested land is to be permanently used for forest purposes. This

¹⁷ Fulfilling the third objective of the thesis.

¹⁸ See Chapter 5, para 5.2.1.3 (a).

¹⁹ Section 11 of the NFA: State Authority may excise land from permanent reserved forest (1) The State Authority, if satisfied that any land in a permanent reserved forest- (a) is no longer required for the purpose for which it was classified under section 10; and (b) is required for economic use higher than that for which it is being utilised, may excise such land from the permanent reserved forest.

²⁰ Interview with Director of Selangor SFD on 6 Feb. 2009. See Chapter 5, para 5.2.1.4 (a).

would include production forest and forest for federal purposes, as stated under section 10 of the NFA.²¹

The provision requesting the state authority to replace the land excised from PRF is not clear and is open to broad interpretation. If one interprets the provision literally, the state government is merely encouraged and not obliged to replace the excised PRF. In this particular section 12 of the NFA, the phrase "...wherever possible and if it is satisfied in the national interest..." followed by several national interest conditions would amount to an option for the state authority either to replace the excised PRF or to decide otherwise.²² Among the conditions that must be satisfied in order for the state authority to undertake the replacement is the availability of suitable land, and 'suitable land' is again open to the state authority's interpretation. Thus, if there is no available suitable land, the excised forested land will never be replaced.²³ Therefore, the Environmental Principle of polluter pays is not being appropriately addressed.

7.1.4 Lack of Public Participation²⁴

Society or the general public directly benefits from various functions of forest, especially people settling or residing near or in forest areas. Thus, public voices and opinions should be considered and taken into account in determining future activities in the forest. The sustainability of forest indeed depends on the participation or involvement of the public.²⁵

From the NFA and NFP it is clear that there is no single provision that allows space for the public to participate in forest decision-making, particularly Orang Asli. The right to

²¹ *Ibid.*

²² See Chapter 5, para 5.2.1.1 (a), 5.2.1.2 (a), 5.2.1.4 (c) and 5.3.

²³ See Chapter 5, para 5.3.

²⁴ Fulfilling the fourth and fifth objectives of the thesis.

²⁵ See Chapter 6, para 6.4.

free, prior and informed consent is also yet to be recognized.²⁶ However, the state government of Selangor has gone further than other states in Peninsular Malaysia by giving the public the right to participate in decision-making on the excision of PRF in its Selangor Forest Enactment.²⁷ It is to be noted that the only provision affecting the public in the NFP concerns amenity forest, which refers to forest areas for recreation, ecotourism and for the purpose of public awareness of forestry. This is considered one-way forest involvement because it is clear that, in this situation, the forest authority or SFD is the only party taking part in forest conservation whereas the public enjoy the benefits of forest to the extent that the forest's condition is severely affected by poor behaviour by the public.²⁸ In this particular matter, the SFD should appreciate and address the Environmental Law principle on intergenerational equity; insofar as this principle relates to forest issues, it is concerned with the linkage of forest goods and services with people and also the transparency of the related authority in the decision-making process. Accountability to ensure the survival of forest is also vital; forest is a trust which does not belong to any single generation. The approach should be more people-centered.²⁹

7.1.5 The Application of the Environmental Law Principle in Forest Conservation³⁰

In order to meet the objectives of the thesis the related Environmental Law principle in forest has been highlighted.³¹ To reiterate, most of the international arrangements on forest have been highlighted and the best practices in forest conservation have been listed; the parties to the conventions or agreements are expected to adopt the principle into practice subject to the suitability of each state's environment. Some of the

²⁶ See Chapter 6, para 6.2.1.

²⁷ See Chapter 6, para 6.2.2.3.

²⁸ See Chapter 6, para 6.4.2.

²⁹ Hooi Chiew, Thang, *Malaysia Forestry Outlook Study*, (Bangkok: FAO, 2009), 65.

³⁰ Fulfilling the fourth and sixth objectives of the study.

³¹ See Chapter 4, para 4.3.

arrangements address the issue of specific types of forest. All the same, every single international arrangement has its own established rationale for being drafted and passed.³²

Thus it is clear that Peninsular Malaysia's forest conservation practice uphold the concept of Sustainable Forest Management (SFM) that is referring to the concept of sustainable development. Forest particularly the PRF is subjected to sustainable basis to ensure a sustainable forest resources. However, the emphasis of sustainable forest is more to economy rather than environment.³³ The SFM concept has been internationally recognized and Member States that have signed up to the international arrangements are strongly encouraged to adopt it. This concept is related to the sustainable development concept which is concerned with harmonization of economic, social and environmental needs. Thus, to conserve forest, these three substances should be considered in order to uphold SFM.³⁴ However, the extent to which these substances are well-adjusted is another matter.

In Peninsular Malaysia the concept has been highlighted in the National Forest Policy; hence, SFDs are obliged to observe and apply the concept in forest conservation practice. The concept emphasizes a forest management system that is concerned with forest produce outcomes. The Selective Management System (SMS) approach, which is considered to have adapted the concept of sustainable forest management, has been practised since the 1950s and ensures that a sustainable amount of forest remains where logging activities are in operation. Hence, the logged forest is not totally cleared.³⁵ Thus, it is a systematic procedure with which the timber contractor must comply; at the

³² See Chapter 4, para 4.2.

³³ See Chapter 4, para 4.4.2.

³⁴ See Chapter 2, para 2.3. See also Chapter 4, para 4.4.2. See also Chapter 5, para 5.2.1.3 (a).

³⁵ See Chapter 5, para 5.2.1.4 (b).

same time, it is the duty of the forest officer to monitor the legal procedure of logging activity.³⁶ However, the SMS is only applicable to the logging activity process in the gazetted PRF and not to the degazetted forest areas.³⁷ The situation became even worse when the degazetted forest area was removed from the jurisdiction of the SFD. This means that there will be no reparation and conservation process in these particular areas.

The degazetted forest areas are hardly restored by the project proprietors to the same size and condition as their original state,³⁸ moreover, even if replacement of the forest were to take place, the new forest would not be in as good a condition as the original forest. In such cases, the SFD needs to work out the full costs of reparation and conservation of forest conditions, consuming a large monetary budget.³⁹ The replacement of degazetted forest is among the requirements stated under the National Forestry Act⁴⁰, but this is always neglected by the project proponents.⁴¹

Thus, sustainable forest management is not only about the method of forest conservation for the purpose of maintaining forest production but should also be concerned with the above-mentioned related issues that affect the coverage of forest. Hence, the concept of sustainable forest management should be carefully understood, especially by those in authority, so that the rationale for the establishment of the concept is clear and the concept can be achieved with maximum benefits.⁴² It is undesirable to see the continuing reduction of forest coverage when the authorities have endorsed the concept of Sustainable Forest Management.

³⁶ See Chapter 2, para 2.3.1 (b). See also Chapter 3, para 3.3, para 3.3.1.

³⁷ See Chapter 5, para 5.2.1.3 (c).

³⁸ See Chapter 5, para 5.2.1.2 (a).

³⁹ See Chapter 5, para 5.3.

⁴⁰ Section 12 of the NFA. State Authority to replace land excised from permanent reserved forest. Where any land is excised under section 11 the State Authority shall, wherever possible and if it is satisfied that it is in national interest so to do having regard to- (a) the need for soil and water conservation, biodiversity and other environmental consideration; (b) the need to sustain timber production in the State in order to meet the requirements of the forest industry; (c) the economic development of the State; and (d) the availability of suitable land constitute in accordance with section 7 an approximately equal area of land a permanent reserved forest.

⁴¹ See Chapter 5, para 5.2.1.1 (a), para 5.2.1.2 (a).

⁴² See Chapter 4, para 4.4.2. See also Chapter 5, para. 5.2.1.3 (a).

Through the interview session, the forest conservators are aware with Environmental Principles recognized in international level however, it does not reflect in forest legislation. Hence, the forest legislature i.e. the state government should recognise the environmental aspect of forest rather than concern to sustain forest for the purpose of generating profits or revenues so that the state legislature would consider the recognized Environmental Principles in the process of enacting the forest law.

Thus, as aforementioned the application of the Environmental Law principle on forest conservation law and policy in Peninsular Malaysia is significant however; it has not been reflected in the forest legislation.⁴³ In brief, the outcome of the application of the Environmental Law principle is as the following;

- Sustainable forest management: the state government has given priority to economy rather than environmental and societal needs.⁴⁴
- Polluter pays: the replacement of the excised forest is not mandatory and the amended penalty does not serve deterrence purpose especially to timber tycoon.⁴⁵
- Precautionary approach: EIA is comprehensive but only due to procedural wise however there is no direct impact on felled timber in the water catchment area and also quarry operation; the concept of protected area has deprived the lives of Orang Asli.⁴⁶
- Intergenerational equity: The relationship of the forest stakeholders are not harmonized hence, this would lead to deprivation of the rights of the present and

⁴³ See Chapter 4, para 4.5.

⁴⁴ See Chapter 4, para 4.4.2.

⁴⁵ See Chapter 5, para 5.2.1.1 (a).

⁴⁶ See Chapter 5, para 5.2.1.2 (b).

future generation on forest⁴⁷ for instance the public do not have enough opportunity to participate in forest decision-making process.⁴⁸

7.2 Recommendations

The Environmental Principle in forest conservation that has been highlighted in this study for instances sustainable development, polluter pays, precautionary approach and also intergenerational equity need a holistic understanding so that it would be easily recognised and instilled by the policy maker in the process of enacting forest legislation. It is also vital to have clear interpretation of this Environmental Principle to forest conservation hence; it would not lead to the abuse of these principles that definitely leads to more harm and destruction to forest. The following points in the recommendations section suggest the applicability of these Environmental Principles in the existing forest governance for betterment of forest conservation in Peninsular Malaysia.

7.2.1 Greater Cooperation between Forest Stakeholders In Regard to Forest Conservation

A new classification of ‘state park’ should be introduced to the list of purposes of the section 11 of the NFA in order for the SFD to manage forest sustainably, as compared to current practice. The application of the concept of ecosystem approach would contribute to greater integration and cooperation between forest stakeholders and also agencies. This will reduce conflicts of interest in forest jurisdiction.

From various data, forest area in Peninsular Malaysia is decreasing in size. Even though the forest is declining, the role of forest guardian in Peninsular Malaysia has not

⁴⁷ See Chapter 3, para 3.3.3, 3.4.

⁴⁸ See Chapter 6, para 6.5.

diminished. This was confirmed during the interviews as most of the forest conservators said that the role of SFD as forest manager and conservator is still significant and even more demanding in sustaining forest, especially PFE, for future years considering the decreasing area of forest coverage.⁴⁹ Thus, it is quite a challenge to all SFDs in Peninsular Malaysia to ensure that the above-mentioned expectation materializes. Hence, the most important role in saving the forest from destruction is indeed that of the forest conservator who should take advantage of increasing environmental concerns to propose a dynamic development for forest, especially the PFE, enabling it to be fully protected due to its environmental importance.

An efficient, integrated network and greater cooperation between federal, state government and other forest related agencies are needed in ensuring the effective application of Environmental Law principle in forest conservation. The complex relationship of the forest stakeholders should also be harmonized to ensure success in the implementation of duties and tasks in sustaining and conserving forest. The holistic approach towards understanding and implementing the relevant Environmental Principle on the forest environment must be instilled, especially in those interested parties to development. Hence, it is the role of everyone, individuals and groups, to ensure the sustainability of our forest and to conserve and preserve it for the sake of future generations.

7.2.2 Clearer Definition of Forest

There is no clear and direct definition of forest in the interpretation section of the National Forestry Act 1984⁵⁰ except for several related terms, for instance closed

⁴⁹ See Chapter 5, para 5.2.1.2 (b).

⁵⁰ Section 2 of the NFA.

forest⁵¹, forest produce, open forest⁵² and permanent reserved forest.⁵³ These forest-related terms have been defined from the perspective of power to declare the forest's status rather than describing and elaborating the meaning of forest or its characteristics. As discussed earlier in chapter two of the study, the biodiversity within tropical forest in Peninsular Malaysia may cause difficulty in establishing a standard definition of forest. Nonetheless, relevant authorities must try to develop a comprehensive definition of forest that represents forest in Peninsular Malaysia. Besides a standard definition of forest, there should also be an effort to develop characteristics of forest in order to guide all SFDs in Peninsular Malaysia. The lack of a definition of forest demonstrates a simple approach to forest conservation in Peninsular Malaysia. The interpretation section should have a clearer and better definition of forest than the aforementioned forest terms.

The use of the term indicating PRF is not found in the National Forestry Policy 1978 (Revised 1992). Another term, Permanent Forest Estate (PFE), is used to indicate that a particular area of forest is permanently allocated for production purposes.⁵⁴ There must be a standard definition to be used by forest authorities in order to avoid conflict in determining the purpose to be served. The term PFE in the NFP is looser than the term PRF in the NFA in the aspect of environmental protection where it is seen to prefer the function of productive forest. Nonetheless, the definition of forest stated in both the NFA and NFP is too broad, thus inviting various interpretations of forest in Peninsular Malaysia. Australian definition of forest is an example of clear definition of forest.⁵⁵

⁵¹ Closed forest: any permanent reserved forest or part thereof declared or deemed to be a closed forest under section 45.

⁵² Open forest: any permanent reserved forest or part thereof declared to be an open forest under section 45.

⁵³ Permanent Reserved Forest: any land constituted or deemed to have been constituted a permanent reserved forest under this Act.

⁵⁴ Interview with Director of Selangor SFD on 6 Feb. 2009.

⁵⁵ See Chapter 1, para 1.1.1.

In this regard, the Environmental Principle on precautionary approach should be considered in term of having a clear definition of forest would provide monitoring facility for forest in Peninsular Malaysia. The definition of forest must be resolved to serve as a guideline, especially for forest conservators in monitoring forest coverage in Peninsular Malaysia. Besides that, a clear definition of forest is vital so that there will be no more issue on dissimilarity of forest data from different forest agencies. Therefore, with a standard form of forest definition for Peninsular Malaysia, the data of remaining of forest covers in Peninsular Malaysia could be easily produced and indeed reliable.

7.2.3 Provision for percentage of forest coverage in Peninsular Malaysia

In 2011 there were 5.81 million hectares or 44%⁵⁶ of forest coverage in Peninsular Malaysia. The table below shows the percentages of forest coverage in each state of Peninsular Malaysia. It indicates that only two states (Kelantan and Pahang) possess above 50% of forest coverage whereas the other states possess below 50% of forest coverage; the smallest forest coverage is 3% in Melaka.

Table 7.1: Percentage of forest coverage in Peninsular Malaysia in 2011

State	Land Area (ha)	Forest (ha)	%	State	Land Area (ha)	Forest (ha)	%
Pahang	3,596,500	2,068,605	57.5	Kedah	942,500	344,871	36.5
Perak	2,102,200	1,030,530	49	Selangor	793,020	250,860	31.6
Johor	1,901,600	466,792	24.5	Negeri Sembilan	665,709	157,298	23.6
Kelantan	1,510,500	812,196	53.7	Melaka	165,200	5,066	3
Terengganu	1,295,600	649,741	50.1	Pulau Pinang	103,104	7,809	7.5
				Perlis	79,500	11,470	14.4

Source: JPSM, 2011.⁵⁷

⁵⁶ Official Website Forest Department Peninsular Malaysia, *Maklumat Perangkaan Hutan Bagi Tahun 2011*, 19 Dec. 2012 <<http://www.forestry.gov.my/index.php/ms/pusat-sumber/statistik.html>>.

⁵⁷ Jabatan Perhutanan Semenanjung Malaysia (JPSM), *Laporan Tahunan 2011*, 30 Dec. 2013, <http://www.forestry.gov.my/index.php?option=com_flippingbook&view=book&id=13:laporan-tahunan-2011&catid=6:laporan-tahunan&Itemid=945&lang=en>.

With respect to PRF coverage, the percentages are lower compared to forest coverage; there were 4.91 million hectares or 37.2% of PRF⁵⁸ remaining of the total land area of Peninsular Malaysia. Table 7.2 shows that all states in Peninsular Malaysia have PRF coverage below 50%. It can also be seen that the distribution of percentage of coverage varies between states.

Table 7.2: Percentage of PRF in Peninsular Malaysia in 2011

State	Land Area (ha)	PRF (ha)	%	State	Land Area (ha)	PRF (ha)	%
Pahang	3,596,500	1,562,902	43.4	Kedah	942,500	342,613	36.3
Perak	2,102,200	986,262	46.9	Selangor	793,020	250,129	31.5
Johor	1,901,600	432,208	22.7	Negeri Sembilan	665,709	153,459	23
Kelantan	1,510,500	623,849	41.3	Melaka	165,200	4,818	2.9
Terengganu	1,295,600	539,234	41.6	Pulau Pinang	103,104	6,098	5.9
				Perlis	79,500	10,799	13.5

Source: JPSM, 2011.⁵⁹

The previous discussion indicated that there are no guidelines or directions on percentage of forest.⁶⁰ Thus, taking into account precautionary approach of the Environmental Principle a provision for percentage of forest coverage, especially PRF, should be developed in order for the SFDs to be able to observe and maintain their PRF percentage from being excised on the ground of permanent non-forestry use. In other words, the PRF would not have been so easily excised had such guidelines existed in the SFM practice. The provision is also important in order to monitor PRF coverage in Peninsular Malaysia in that the states would not be able to easily excise their PRF without taking into account other states' PRF percentages. Thus, states with high percentages of forest, such as shown in the above table, would have to exercise extra caution in determining whether to develop or sustain their forest coverage.

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*

⁶⁰ See Chapter 5, para 5.2.1.1 (b).

7.2.4 The Need for Deterrence Provision in Forest Penalties

The Environmental Principle of polluter pays is applicable in this context. Miscellaneous offences and penalties are stated under Part VII of the NFA, and it can be seen that the heaviest penalty (category 1)⁶¹ for a forest offence is a fine not exceeding five hundred thousand ringgit and imprisonment for a minimum term of one year and a maximum term of twenty years. This heaviest penalty was specifically amended in 1993 for the following forest offences;

- 1) Counterfeiting or defacing
- 2) Possessing implements for counterfeiting,
- 3) Marks on trees and timber
- 4) Altering boundary marks⁶²

The provision was amended to curb the aforementioned rampant illegal activity within permanent reserved forest.

The second category⁶³ of forest offence which carries medium-severity penalties provides for a fine not exceeding fifty thousand ringgit or imprisonment not exceeding five years or both punishments for unlawful possession of forest produce⁶⁴, occupying or carrying out activities in permanent reserved forest⁶⁵, setting fires within forest areas⁶⁶ and any other offences not stated under the Act⁶⁷. The third category⁶⁸ carries the most lenient penalty for forest offences, which is a fine not exceeding ten thousand ringgit or imprisonment not exceeding three years or both punishments for minor forest offences, for instance removing any forest produce or minerals without a license, grazing cattle, using poisonous substances or dynamite or other explosives in rivers or

⁶¹ Malaysia: Jabatan Perhutanan Semenanjung Malaysia, *Phamplet Perbuatan-perbuatan Yang Dilarang di Dalam Hutan Simpanan Kekal dan lain-lain Kesalahan Hutan dan Penalti Jika Disabutkan Kesalahan di bawah Akta Perhutanan Negara 1984*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia).

⁶² Sections 15 and 86 of the NFA.

⁶³ See note 29.

⁶⁴ Section 84 of the NFA.

⁶⁵ Section 32 of the NFA.

⁶⁶ Section 82 of the NFA.

⁶⁷ Section 87 of the NFA.

⁶⁸ See note 29.

lakes for the purpose of fishing, hunting, etc.⁶⁹ Any form of littering in forest is also punishable under the Act.⁷⁰ The amended provisions show the government's determination to combat illegal logging activities, especially in the PRF. Logging activities should be seen not as a means of making short-term profits but in the context of long-term environmental conservation.

For the purpose of curbing illegal logging, MC&I should encompass both licensed and non-licensed areas in their forest certification assessment because illegal logging also takes place in non-licensed areas. Most of the reported cases of illegal activities in the forest concerned breaches of forest licenses such as illegal logging rather than violations of environmental law, apart from a few cases as discussed in the earlier chapter.⁷¹

Pertaining to the status of forest offences, the forest offender should be treated on a par with other criminals because the term 'offence' itself indicates a wrongful act against the state; hence, committing a forest offence can be regarded as a serious transgression against the state and the current generation. Now is the time to take stern action in enforcing available laws on forest so that the remaining forest coverage can be protected and preserved for future generations.

The general provisions for penalties should be amended. The existing provisions for penalties are inadequate to serve as a deterrent. The current forest situation indicates that the penalties being imposed are insufficient to prevent damage to the forest. General penalties for forest offences should be determined according to the seriousness of the offence. The maximum punishments for general penalties should be on a par with the offence of taking forest produce because the heavier the penalty the greater the

⁶⁹ Section 81 of the NFA.

⁷⁰ Section 83 of the NFA.

⁷¹ See Chapter 5, para 5.2.1.3 (c).

deterrent effect, especially for those offences related to the timber business. Hence, the penalties should be deterrent rather than rehabilitative in nature because people have been too complacent about the benefits offered by forest as a naturally renewable resource. Renewable resources will diminish if they are utilized excessively without proper controls. Rehabilitative penalties would cost more, both financially and in terms of the time required for reparation and restoration of forest to its original condition.

The heaviest penalty will have no effect on a billionaire timber tycoon. Thus, there is indeed an urgent need for comprehensive penalties for forest offences that would convey the message of deterrence to people engaging in illegal forms of forest activity.

Besides that, the integrity of the federal and state governments in replacing excised PFE should be strengthened. If there is no integrity, forest coverage will end up totally destroyed and depleted. This has been highlighted under the NFA where it is concerned with efforts to increase the area of PFE by including other lands such as idle lands, state lands, steep lands and other degraded lands. This provision seems to be a mere condition because the phrase “whenever possible” indicates that the requirement for forest replacement is not mandatory. Furthermore, replacement with idle lands et cetera, as mentioned earlier, is a more expensive afforestation process. Thus, the cost is to be borne by the SFD. In terms of limiting states’ power to replace PFE with non-PFE, section 11 of the NFA should be reviewed. This is to ensure that the remaining areas of PFE can be maintained.

7.2.5 Stringent Approach to the Excision of Permanent Reserved Forest

As of 2012, forest coverage in Peninsular Malaysia was already less than 50% of the total land area. The percentage of forest is decreasing due to its conversion to permanent

agricultural plantations, which has been an issue ever since the federal government initiated plans to develop acres of forested land all over Peninsular Malaysia in the 1990s. This federal government initiative has been elaborated in chapter five of the thesis.

Apart from the conversion of PRF into permanent agricultural plantations, acres of forested land are also degazetted for the purpose of developing new townships, large-scale vegetable plantations and federal government projects.

This forest conversion, especially the large-scale activity, needs to be seriously monitored by the relevant forest authorities. Forest authorities need to have proper planning and must strictly preserve the status of PRF. Thus, it is the role of the forest authorities to advise the state governments on the importance of sustaining a portion of the PRF, since state governments always raise the issue of economic growth when deciding to excise forest. Besides that, the state government and the forest authority should also control the excessive amount of forest conversion to non-permanent forest use, especially for production forest, and should also control the recent higher demand for recreational facilities to avoid gradual reduction of forest coverage.

7.2.6 Opportunity for the Public Participation

Public participation in forest decision-making is strongly related to the public's right to environmental information. This is also to include the right to free, prior and informed consent. These rights have been internationally recognized. The Environmental Principle on the intergenerational equity need to be fully comprehended for this public's right to be diligently executed. This opportunity for the public to become involved in forest decision-making is considered vital even though it is clearly stated in the Federal

Constitution that forest is the property of the state governments. However, forest does not totally belong to the states because citizens or members of the public have the right to benefit from forest's multi-purpose function. Even future generations have the right to enjoy the benefits of the forest.

7.2.7 Greening of the Earth

The Greening of the Earth campaign has been popularized by the government sector and also a number of private companies through various programmes. The term 'greening' here refers to the campaign to plant trees.

The Director of Penang SFD revealed during his interview that the campaign objective had been realized and this was reflected in the forest profile in regard to the increased size of its PRF. The Forestry Department of Peninsular Malaysia has also launched the campaign "*Kempen Menanam 26 Juta Pokok 2010-2014 - Satu Warga Satu Pokok Hijaukan Bumi.*"⁷² This campaign would be more successful were the FDPM to disseminate the progress or status of the planting of trees to the public through the media. Thus, indirectly this should not be solely the task of the FDPM but of all the citizens of Peninsular Malaysia. The campaign is considered one way of achieving the target of the international agreement of the Non-Legally Binding Instrument on All Types of Forest which declared that, by the year 2015, the member states would achieve progress in forest management.

Besides the above-mentioned efforts in greening the earth, the SFDs should make an effort to establish new PRF. This effort would take years to complete but would be worthwhile. This does not mean that the SFDs should establish new areas of idle land as

⁷² See <<http://www.forestry.gov.my>>.

this would be very expensive. Thus, there is an urgent need to identify potential forested areas in order for new PRF to be established, for instance the effort by Perlis SFD in proposing the gazettement of all mountains in Perlis as PRF.

Thus, the greening of the earth campaign is one way of reducing the impact of global warming and the most vital function of forest as a carbon sinker will be protected.

Besides the campaign, REDD+ should be well planned and properly implemented in order for the whole world to benefit from it. It is recognized as a mechanism of multiple benefits *inter alia* functioning as a mechanism to mitigate climate change, serving the livelihoods, sustaining vital ecosystem services and preserving significant biodiversity at global level.⁷³

7.3 Concluding Thoughts

To conclude the thesis, it can be seen that several Environmental Law principles have been adopted into practice; however their application in law and policy has not been totally accomplished. The other aspect relates to the recognized concept of sustainable forest management which is concerned with balancing economic, environmental and social needs; however, tends to prioritize economic rather than societal and environmental needs.

Besides the NFA and NFP, there are other forest-related laws and legislation, for instance the TCPA, the EQA, the NPP, et cetera.⁷⁴ Since there are numerous pieces of legislation governing forest in Peninsular Malaysia, an obvious question arises: isn't all this legislation sufficient to govern the forest? In fact, it is believed that quantity does

⁷³ See Chapter 4, para 4.4.10. See also Convention on Biological Diversity, *REDD+ and Biodiversity Benefits*, 30 Dec 2013, <<https://www.cbd.int/forest/redd-plus/default.shtml>>.

⁷⁴ See Chapter 4, para 4.4.

not guarantee quality. This is evident from the increasing amount of forest damage as mentioned in the earlier chapters. Mere adoption of various laws and rules without taking into account the actual forest scenario from an Environmental Law perspective will amount to more forest damage and deterioration.

Forest in Peninsular Malaysia is in an alarming condition, as demonstrated in the lengthy discussion of forest issues in the previous chapters; hence, a commitment to conserving and preserving forest is extremely urgent. Such a commitment is required not only from those in authority but also from the public at large.

All in all, it is known that, since time immemorial, forest has existed and has been inherited by successive generations. Hence, it is for the present generation to continue inheriting this verdant forest from our ancestors, with its wide coverage of green area, its splendid diversity of flora and fauna, and myriad unidentified and unimagined therapeutic substances.

Thus, for the above-mentioned reasons forest in Peninsular Malaysia should be carefully managed and conserved. Taking everything into account and after considering the discussion on various aspects of forest in Peninsular Malaysia, it can be firmly established that forest in Peninsular Malaysia must be maintained for its environmental benefit for the whole world; furthermore, the application of Environmental Law principles to the forest legislation and management practices is considered significant.

BIBLIOGRAPHY

Book, Article from Journal/Newspaper, Proceeding

Abdul Aziz Bari, *Malaysian Constitution: A Critical Introduction*, (Kuala Lumpur: The Other Press, 2003).

Abdul Aziz Bari and Farid Sufian Shuaib, *Constitution of Malaysia: Text and Commentary*, 2nd ed., (Petaling Jaya: Prentice Hall, 2006).

Abdul Haseeb Ansari, "Socio-Legal Issues in Biodiversity Conservation: A Critical Appraisal With Special Reference to Malaysia", (2001) 4 *The Malayan Law Journal* xxii.

Abdullah Mohamad Said, *The Practice of Post-Monitoring and Audit in Environmental Impact Assessment in Malaysia*, (Thesis PhD, University of Wales Aberystwyth, 1997).

Abdul Rahim Nik, "Water Yield Changes after Forest Conversion to Agricultural Land use in Peninsular Malaysia", (1988) 1(1) *Journal of Tropical Forest Science* 67-84.

Abdul Rahman Mahmud. "Menghadapi Fenomena El Nino", *Utusan Online* 15 June 2009, 25 August 2009

<http://www.utusan.com.my/utusan/info.asp?y=2009&dt=0615&pub=utusan_malaysia&sec=Rencana&pg=re_05.htm&arc=hive>.

Adzidah Yaakob, *Public Participation in Conservation of Forest Biodiversity: A Special Reference to Peninsular Malaysia*, Department of Geography University of Aegean, The International Conference Studying, Modeling & Sense Making of Planet Earth, June 1-6, 2008, CD ROM. (Lesvos, Greece: Department of Geography University of Aegean, 2008).

A Handbook of Environmental Impact Assessment Guidelines, (Putrajaya: Department of the Environment, 2007).

Ahmad Nazri Mohamad, et al., “Jeritan Terakhir”, *Metro Ahad*, 7 December 2008.

Ai Chun, Yeng, “Temperatures May Go up by 3°C with El Nino Phenomenon”, *The Star Online*, 10 June 2009, 25 Aug 2009

<<http://thestar.com.my/news/story.asp?file=/2009/6/10/nation/4084162&sec=nation>>.

Ainol Amriz Ismail, “Kerajaan Kecewa Bukit Diteroka”, *Utusan Online* 14 June 2012, 10 Oct. 2012

<http://www.utusan.com.my/utusan/info.asp?y=2012&dt=0614&pub=Utusan_Malaysia&sec=Selatan&pg=ws_03.htm#ixzz28IDa8LrR>.

Ainul Jaria Maidin, *Access to Public Participation in the Land Planning and Environmental Decision Making Process in Malaysia*, 20 Feb. 2012
<<http://www.ijhssnet.com>>.

A. Latiff, *The Current Status of Biodiversity in Malaysia*, 3 Aug. 2012, PowerPoint slides

<http://www.ukm.my/myc/pdf/workshop/DAY%20ONE_SESSION1/Prof%20Latiff.pdf>.

Anwarul Yaqin, *Legal Research and Writing*, (Kelana Jaya, Malaysia: LexisNexis, 2007).

Appanah, S., “Trends and Issues in Tropical Forest Management: Setting the Agenda for Malaysia”, *Conference on Forestry and Forest Products Research (CFFPR) 1999 Series: Tropical Forest Harvesting: New Technologies Examined*, (Kuala Terengganu, 22-24 Nov. 1999).

Arif Nizam Abdullah, “Tapak Ramsar Habitat Flora, Fauna”, *Utusan* 17 Aug. 2009, 25 Aug. 2009

<http://www.utusan.com.my/utusan/info.asp?y=2009&dt=0817&pub=utusan_malaysia&sec=Laporan_Khas&pg=lk_01.htm&arc=hive>.

Arshad Ayub, “National Agricultural Policy and its Implication on Forest Development in the Country”, *The Malaysian Forester* 42(4): 348-353, 1979.

Article 19 and Centre for Independent Journalism, *A Haze of Secrecy Access to Environmental Information in Malaysia*, (Kuala Lumpur: Article 19 and Centre for Independent Journalism, 2007).

Asian Indigenous and Tribal Peoples Network (AITPN), *Orang Asli's Rights: Malaysia's Federal Court faces acid test*, 19 April 2012, 26 June 2006 <<http://www.aitpn.org/Issues/II-03-06-Orang.pdf>>.

Azizan Marzuki, *A Review on Public Participation in Environmental Impact Assessment in Malaysia*, Theoretical and Empirical Researches in Urban Management, No.3(12)/August 2009, 30 Jan. 2012 <<http://um.ase.ro/no12/10.pdf>>.

Azman Anuar, "Pembeli, pemaju, kerajaan kena fikir kehebatan kuasa alam", *Utusan Online*, 3 December 2008 <http://www.utusan.com.my/utusan/info.asp?y=2008&dt=1213&pub=utusan_malaysia&sec=Rencana&pg=re_0.5htm&arc=hive>.

Azmi Sharom, "A Critical Study of the Laws Relating to the Indigenous Peoples of Malaysia in the Context of Article 8(j) of the Biodiversity Convention", (2006) 13 *International Journal on Minority and Group Rights* 53-67.

Azmi Sharom, "Environmental Law", *Survey of Malaysian Law 2003*, Ed. Norchaya Talib, (Kuala Lumpur: Jabatan Penerbitan Universiti, Malaya, 2003),

Azmi Sharom, "*Untying the Gordian Knot: Extending Jurisdiction To Combat Transboundary Haze Pollution*", (2005) 1 *The Malayan Law Journal* lxxxviii.

Azmi Sharom, "Understanding the Environmental Quality Act 1974", *Current Legal Problems in Malaysia*, Ed. Mimi Kamariah Majid, (Kuala Lumpur: University Malaya Press, 1998).

Beder, Sharon, *The Nature of Sustainable Development*, 2nd Ed., (Scribe, Newham, Vic., 1996).

19.7.2012 <<http://www.uow.edu.au/~sharonb/STS300/equity/meaning/integen.html>>.

Bernama Media, *Implementation of the Wildlife Conservation Act 2010 (Act 716) Wildlife Conservation (Operation of Zoo) Regulations 2012*, 3 Jan. 2014, <my.news.yahoo.com/implementation-wildlife-conservation-act-2010-act-716-wildlife-023132527.html>.

B.K., Tan and W.H. Ting, "Some Case Studies on Debris Flow in Peninsular Malaysia", *Proceedings of the 2nd International Conference on Geotechnical Engineering for Disaster Mitigation and Rehabilitation (GEDMAR08) at Nanjing, China, May 30-June 2, 2008*. Eds. Hanlog Liu, An Deng and Jian Chu, (Beijing and Berlin: Science Press Beijing and Springer Berlin Heidelberg, 2008).

Blakeney, J., "Overview of Forest Law Enforcement in East Malaysia", *Workshop on Illegal Logging in East Asia*, (Jakarta, 27-28 Aug. 2000).

Blockhus, J et al., eds. *Conserving Biological Diversity in Managed Tropical Forests*, (IUCN/ITTO: Gland, Switzerland and Cambridge, 1992).

Brookfield, Harold, Lesley Potter and Yvonne Byron, *In Place of the Forest: Environmental and Socio-Economic Transformation in Borneo and the Eastern Malay Peninsula*, (Tokyo: United Nations University Press, 1995).

Brown Weiss, Edith, *In Fairness to Future Generations and Sustainable Development*, 17 July 2012 <<http://www.auilr.org/pdf/8/8-1-2.pdf>>.

Butler, Rhett 1994-2011, *Mongabay.com Tropical Rainforests-Malaysia*, CIA-World Factbook Profile, FAO-Forestry Profile World Resource Institute, 4 Feb. 2006, 23 Nov. 2011 <<http://rainforests.mongabay.com/20malaysia.htm>>.

Cheah, W L, "Sagong Tasi and Orang Asli Land Rights in Malaysia: Victory, Milestone or False Start", 2004 (2) *Law, Sial Justice & Global Development Journal (LGD)*, 28 Feb. 2005, 21 April 2012 <http://www.go.warwick.ac.uk/elj/lgd/2004_2/cheah>.

<http://www.coac.org.my/codenavia/portals/coac2/code/main/main_art.php?parentID=114>

Cherla, B. Sastry, P.B.L. Srivastava and Abdul Manap Ahmad, *A New Era in Malaysian Forestry*, (Selangor: Universiti Pertanian Malaysia Press, 1977).

Cullet, Philippe and Gowlland-Gualtieri, *Key Materials in International Environmental Law*, (England: Ashgate, 2004).

Dass, Maria J, *Residents lament loss of open space*, 20 Feb. 2012
<http://www.malaysianbar.org.my/members_opinions_and_comments/>

Dalam negeri, “Kemusnahan Bakau Boleh Bawa Bencana”, *Utusan Online*, 15 May 2008, 25 Aug. 2008
<[http://www.utusan.com.my/utusan/info.asp?y=2008&dt=0515&pub=utusan_malaysia&sec=Dalam Negeri&pg=dn_09.htm&arc-hive](http://www.utusan.com.my/utusan/info.asp?y=2008&dt=0515&pub=utusan_malaysia&sec=Dalam+Negeri&pg=dn_09.htm&arc-hive)>.

Dauvergne, P, *Loggers and Degradation in the Asia-Pacific Corporations and Environmental Management*, (Cambridge: Cambridge University Press, 2001).

Demery, P, “Population”, *The Earth As Transformed by Human Action Global and Regional Changes in the Biosphere over the Past 300 Years*, Ed. Turner II, B.L., (USA: Cambridge University Press, 1990).

Department of Environment Ministry of Science, Technology and Environment, Malaysia, *Environmental Impact Assessment Guidelines for Forestry*, (Kuala Lumpur: Department of Environment, MOSTE, 1998).

Directive 97/11/EC, Directive 2003/35/EC, Directive 2009/31/EC.
<<http://ec.europa.eu/environment/eia/eia-legalcontext.htm>>.

D. Sharma, “National Policy on Biodiversity: An NGO Perspective”, *Proceedings of the Conference on Biodiversity and National Development: Achievements, Opportunities and Challenges*, May 28-30, 2008. Ed. Yong, Hoi Sen, (Kuala Lumpur: Akademi Sains Malaysia, 2009).

Esther Chandran, *Hikers Expose Illegal Logging in Serdang*, *StarMetro* 2 July 2007.

Eccleston, C.H, *Effective Environmental Assessments How to Manage and Prepare NEPA EAs*, (CRC Press LLC: Florida, 2001).

E.Soepadmo and T.Kira, “Contribution of the IBP-PT Research Project to the Understanding of Malaysian Forest Ecology” *Proceedings of a New Era in Malaysian Forestry, 1977*. Eds. Cherla, B.Sastry, P.B.L. Srivastava and Abdul Manap Ahmad, (Ipoh: Universiti Pertanian Malaysia Press, 1977), 63-109.

European Commission Environment, Environmental Impact Assessment, 16 Nov. 2011, 31 Jan. 2012, <<http://ec.europa.eu/environment/eia/eia-legalcontext.htm>>.

Faculty of Forestry, University Putra Malaysia, *Ayer Hitam Forest Reserve*, 26 Nov. 2009
<http://www.forr.upm.edu.my/eng/index.php?option=com_content&view=article&id=150&Itemid=187>.

Farrier, David and Stein, Paul, *The Environmental Law Handbook Planning and Land Use in NSW*, (Sydney: RLCP, 2006).

Faudziah Aseambankers Malaysia Bhd, “Huge Potential in Carbon Trading”, *Starbiz*, 7 Jan. 2008.

Fenton, Matthew Mccan, *Global Warming, The Causes, The Perils, The Solutions, The Actions:51 Things You Can Do*, (New York: Time Books Time Inc., 2007).

Fifth Malaysian Plan, 1986-1990, (National Printing Department: Kuala Lumpur, 1986), 279.

Foo Yee Ping, “Our Right To Convert Forests Malaysia Pushes For More Development”, *The Star*, 26 Sept. 2007.

Food and Agriculture Organization of the United Nations (FAO), “Trade and marketing of forest product”, *Journal of Unasylyva*, 183 1995 v7850/E, 1995, 4 Dec. 2009
<<http://www.fao.org/docrep/v7850e/v7850e11a.htm>>.

Forestry Department Peninsular Malaysia, *Forestry and the Environment A Collection of Dr. Mahathir's Speeches*, (Kuala Lumpur: FDPM, 2000).

Foreword of the Director General of Forestry, Forestry Department of Peninsular Malaysia. Dasar Perhutanan Negara [National Forestry Policy] diluluskan oleh Majlis Tanah Negara pada 10hb April 78 [approved by the National Land Council on the 10th. April 78].

Forestry Department, Peninsular Malaysia, *Pemahaman Mengenai Pindaan Akta Perhutanan Negara 1984 dan Implikasi Perlaksanaannya*, 18 June 2007 <<http://www.forestry.gov.my>>.

Giri, C. et al., "Mangrove Forest Distributions and Dynamics (1975-2005) of the Tsunami-Affected Region of Asia", Ed., Bowman, David, (2008) 35, *Journal of Biogeography* 519-528.

Glowka, L, *et al.*, *A Guide to the Convention on Biological Diversity*, (UK, Germany and Switzerland: Gland and Cambridge, 1996).

Goodland, Robert, "Free, Prior and Informed Consent and the World Bank Group", (2004) 4 *Sustainable Development Law & Policy* 66-74.

Hammond, Don, *Commentary on Forest Policy in the Asia-Pacific Region (A review for Indonesia, Malaysia, New Zealand, Papua New Guinea, Philipines, Thailand and Western Samoa)*, (Thailand: Asia-Pacific Forestry Commission, 1997).

Henson, Ian E., "The Carbon Cost of Palm Oil Production in Malaysia", (2008) 84, (988)*The Planter* 445-464.

Hirsch, P. and Carol Warren, eds., *The Politics of Environment in Southeast Asia Resources and Resistance*, (New York: London and New York, 1998).

Hornby, AS, *The Oxford Advanced Learner's Dictionary of Current English*, 4th ed., (UK: Oxford University Press, 1989).

- Hughes, D, et al., *Environmental Law*, 4th ed., (London: Butterwoths LexisNexis, 2002)
- Hussain Said, “Guna Akta Atasi Kegiatan Pembalok Haram”, *Berita Harian* 22 June 2007.
- Ismariah Ahmad, *Economics of Carbon Emission and Sequestration in the Malaysian Forest Sector*, (Thesis PhD, University of Washington, 2001).
- IUCN, UNEP, WWF, *Caring for the Earth: A Strategy for Sustainable Living*, (Switzerland: IUCN UNEP WWF, 1991).
- Jabatan Perhutanan Semenanjung Malaysia, *Manual Perhutanan 2003 Jilid I*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia, 2003).
- Jabatan Perhutanan Semenanjung Malaysia, *Manual Perhutanan 2003 Jilid II*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia, 2003).
- Jabatan Perhutanan Semenanjung Malaysia, *Manual Perhutanan Jilid III*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia, 2005).
- Jamal Othman, *Linking Currency Depreciation and Agricultural Land Demand*, 25 July 2009 <<http://www.econ.upm.edu.my/~peta/jamal/jamal.html>>.
- Jaspal Singh, “5 Held Over Illegal Clearing of Terla Forest Reserve”, *New Straits Times* 8 Aug. 2007.
- Jenita Enigi, *Dialog Dua Hala Masyarakat Orang Asli Dengan MB Perak Tentang Isu Orang Asli*, 18 June 2008, 21 April 2012 <http://www.coac.org.my/codenavia/portals/coacv2/main/main_art.php?parentID=115>
- JPSM, *Forestry in Peninsular Malaysia*, (Kuala Lumpur: JPSM).
- Kanniah, Rajeswari, “Public Participation in the Environmental Impact Assessment Process in Malaysia”, [2000] 3 *Malayan Law Journal* cxxxiv.

Khairuddin b. Hj. Kamaruddin, *Hutan Hujan Tropika Semenanjung Malaysia*, (Kepong: Institut Penyelidikan Perhutanan Malaysia, 1992).

K. Kumari, *Is Malaysian Forest Policy and Legislation Conducive To Multiple-Use Forest Management?*, FAO Corporate Document Repository, <<http://www.fao.org/docrep/v7850e/v7850e11.htm>>.

Koshy, Shila et.al, “A Bittersweet Temuan Victory”, *the Star*, 27 May 2010.

Kubasek, Nancy K. and Silverman, Gary S., *Environmental Law*, (US: Prentice Hall, 2002).

Laporan_Khas&pg=1k_01.htm&arc=hive> Arshad Ayub, “National Agricultural Policy and its Implication on Forest Development in the Country”, *The Malaysian Forester* 42(4): 348-353, 1979.

Lawrence C. Christy et al. *Forest Law and Sustainable Development Addressing Contemporary Challenges Through Legal Reform*, (Washington: The World Bank, 2007).

Leaflet No.10: Indigenous Peoples and the Environment, 11.3.2012 <<http://www.ohchr.org/Documents/Publications/GuideIPleaflet10en.pdf>>

Leong Y.K., “Environmental Impact Assessment and Conservation”, *The State of Nature Conservation in Malaysia*, Ed. R. Kiew, (Kuala Lumpur: Malaysian Nature Society, 1991) 227-232.

Lian Pin Koh and David S. Wilcove, “Is Oilpalm Agriculture Really Destroying Tropical Biodiversity?”, *Conservation Letters* 1, Ed. Bradshaw, Corey, (USA: Blackwell Publishing Inc., 2008).

Lim, Hin Fui, *Orang Asli, Forest and Development*, (FRIM: Kuala Lumpur, 1997).

L. Krugman, Stanley, “International Decade on Biological Diversity”, *Proceedings of an International Workshop on Biodiversity at Taipei, Dec. 8-14 1992*. Eds. Hsu Ho, Chung, et al., (Taiwan: Taiwan Forestry Research Institute, 1992).

Liu, Hanlog, An Deng and Jian Chu, (Beijing and Berlin: Science Press Beijing and Springer Berlin Heidelberg, 2008), 231-235.

Ministry of Natural Resources and Environment, *Malaysia National Biological Biodiversity Policy*, 27 Nov. 2013, <www.cbd.int/doc/meetings/nbsap/nbsapcbw-seasi-01/other/nbsapcbw-seasi-01-my-en.pdf>.

Malaysia Rainforest Conservation Profile, 25 July 2009
<<http://www.tamanegara.org/conservation=msia.htm>>.

Mazwin Nik Anis, “Burden of Proof Shifts Buyer Will Have To Show That Logs Are Legal”, *The Star*, 19 Sept. 2007.

McEldowney, John F and Sharron, *Environmental Law & Regulation* (London: Blackstone Press Limited, 2001).

Mageswari, M., “RM6.5mil settlement for Temuans whose land was taken away”, *the Star*, 27 May 2010.

Mahathir Mohamad, “Opening Address”, *Second Ministerial Conference of Developing Countries on Environment and Development*”, Crown Princess Hotel, Kuala Lumpur, 27 Apr. 1992.

Mahathir Mohamad, “Opening Address” *International Timber Conference/Malaysian Timber Board and Malaysian Timber Council*, Nikko Hotel, Kuala Lumpur, 3 Mar. 1998.

Malaysian Timber Council, *Malaysia’s Response to Forestry and Timber Related Questions*, (Kuala Lumpur: Malaysian Timber Council, 2007).

Malaysia: Jabatan Perhutanan Semenanjung Malaysia, *Phamplet Perbuatan-perbuatan Yang Dilarang di Dalam Hutan Simpanan Kekal dan lain-lain Kesalahan Hutan dan Penalti Jika Disabitkan Kesalahan di bawah Akta Perhutanan Negara 1984*, (Kuala Lumpur: Jabatan Perhutanan Semenanjung Malaysia).

Malaysia, Ministry of Primary Industries, *Forestry in Malaysia*, (Kuala Lumpur: Ministry of Primary Industries, 1988).

Malaysia, Ministry of Primary Industries, Ministry of Science, Technology and Environment, *Forever Green*, (Oxford University Press: Capital Communications, 1992), 8.

Malaysia, Ministry of Primary Industries, “World’s Major Exporters of Forest Products-1989”, *Fact Sheets-Forestry and Environment*, (Kuala Lumpur: Ministry of Primary Industries, Malaysia, 1992).

Malaysia, Ministry of Primary Industries, *Malaysian Rain Forest: A Living Resources*, (Kuala Lumpur: The Malaysian Timber Industry Board).

Malaysia, The Economic Planning Unit, Prime Minister’s Department, *The Ninth Malaysia Plan, 2006-2010*, (Putrajaya: The Economic Planning Unit, Prime Minister’s Department: Putrajaya, 2006).

Malaysian Nature Society (MNS), *Supporting MNS*, 2006-2010, 5.8.2011 <<http://www.mns.my/section.php?sid=114&pb=Partner>>.

Malaysian Timber Certification Council, *Sustainable Certification Imposters*, January 2004, 21 April 2012, <<http://www.greenpeace.org>>.

Manokaran, N., “Status of Biodiversity Research in Malaysia”, *Proceedings of an International Workshop on Biodiversity at Taipei, Dec 8-14 1992*. Eds. Chung, Hsu Ho, et al., (Taiwan: Taiwan Forestry Research Institute, 1992).

MAR-SFM Working Paper 21/2007, Forest Resources Development Service, Brief on National Forest Inventory NFI, Malaysia, (Rome: FAO, 2007).

Maura-Costa, P., *The Climate Convention and Evolution of the Market for Forest-Based Carbon Offsets*, 3 July 2012

<<http://www.fao.org/docrep/003/y1237e08.htm#TopOfPage>>.

Melati Mohd Ariff, *A Shared Responsibility to Rectify Water Supply Issues*, Bernama.com., 20 Jan. 2009, 23 Nov. 2009 <<http://www.bernama.com/bernama/v5/newsfeatures.php?id=384799>>.

M.Jill Blockhus, et al., ed., *Conserving Biological Diversity in Managed Tropical Forests*, (IUCN/ITTO, 1992).

Mohd Afandi Salleh, *International Environmental Conventions and Treaties*, (Petaling Jaya: International Law Book Series, 2002).

Mohd Fazli Zainul Abidin, et al., “Bukit Maut”, *Sinar Harian*, 7 Disember 2008,1.

Mohd Nawayai Yasak et al., Status of Wildlife Conservation in Peninsular Malaysia, *National Biodiversity Seminar (MyBioD 2012), 18-19 December 2012*, 3 Jan. 2014 <www.nre.gov.my/Malay/Biodiversiti/Documents/Status%20of%20Wildlife%20Conservation_DWNP.pdf>.

Mohd Yunus, Z et al., *International Forest-Related Agreements and Sustainable Forest Management With Reference To Peninsular Malaysia*, Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 20-21 Mar. 2007, The National Conference on the Management and Conservation of Forest Biodiversity in Malaysia, CD ROM, (Putrajaya: Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 2007).

M. Sabri Yusof, *International Environmental Law*, (Kuala Lumpur: International Law Book Series, 2000).

National Research Council, *Sustainable Agriculture and the Environment in the Humid Tropics*, (Washington, D.C: National Academy Press, 1993).

Ng, Yong Foo, *Flight Phenology, Diversity and Systematics of the Ichneumonid Wasps (Hymenoptera: Ichneumonidae) in Lowland Dipterocarp Forests*, (Thesis Ph.D, Universiti Kebangsaan Malaysia, Bangi, 2006).

Nicholas, Colin, “For the Good of All Indigenous People and Biodiversity”, *the Star (Environment)*, 3 February 2004.

Nicholas, Colin, “Participation and Recognition of Orang Asli as Stakeholders in Protected Areas Management”, *National Workshop on “Protected Areas Management: Direction for the Future”*, (Kuala Lumpur, 14-16 Jan. 2002).

Nicholas, Colin, “The Law on Natural Resource Management As It Affects Orang Asli”, *the UNDP-RIPP/PACOS Workshop on Indigenous Peoples and Natural Resource Management Laws*, (Donggongan, Sabah, 10 Nov. 2005).

Nicholas, Colin, “Who Can Protect Forest Better? Pitching Orang Asli against Professionals in Protected Area Management in Peninsular Malaysia”, *International Symposium on Eco-Human Interactions in Tropical Forest*, (Kyoto University, 13-14 June 2005).

Nijar, Gurdial Singh, *The Bakun Dam Case: A Critique*, [1997] 3 MLJ ccxxix

Norha Abu Hanifah, *Forest Management Law in Malaysia: Policy and Legislation*, Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 20-21 Mar. 2007, The National Conference on the Management and Conservation of Forest Biodiversity in Malaysia, CD ROM, (Putrajaya: Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 2007).

Normawati Ah Adnan, “Penerokaan Hutan Punca Kurang Air”, *Sinar*, 22 May 2008.

N.S. Subramaniam and A.V.S.S. Sambamurty, *Ecology*, 2nd ed., (Oxford: Alpha Science, 2006).

O. Brooks, Richard, Ross Jones and Ross A. Virginia, *Law and Ecology: The Rise of the Ecosystem Regime*, (England: Ashgate, 2002).

Opat Rattanach, "Tanam bakau elak bencana", *Utusan Malaysia*, 26 January 2007.

Orang Asal 2007 Statement on Malaysian Independence and Nationhood - Statement by the Orang Asli of Peninsular Malaysia and the Natives of Sabah and Sarawak in conjunction with 50 years of Independence and 44 Years of Malaysian Nationhood, 18 April 2012

<http://www.coac.org.my/codenavia/portals/coacv2/code/main/main_art.php?>.

Orang Asli Walk For 'Tanah Adat', The New Straits Times, 11 Dec. 2006
<http://www.coac.org.my/codenavia/portals/cocv2/code/main/main_art.php?parentID=115>.

Papastergiou, Spiros, *Canadian Project Forester "Study Paper 95/96" An Informative Overview of the Most Common Forest Types, Forest Pressures and Progress Towards Sustainable Tropical Forest Management in South East Asia*, (Kuala Lumpur: Asean Institute of Forest Management, 1996).

Papastergiou, Spiros, *An Informative Overview of the Most Common Forest Types, Forest Pressures and Progress Towards Sustainable Tropical Forest Management in South East Asia*, Canadian Project Forester, Study Paper 95/96, (Kuala Lumpur: ASEAN Institute of Forest Management, 1996).

Persatuan Orang Asli Semenanjung Malaysia (POASM), *Cadangan Balas POASM Berkenaan Dengan Cadangan JHEOA Mengenai Dasar dan Kaedah Pemilikan Tanah Orang Asli*, 27 July 2006.

Phamplet Jabatan Perhutanan Semenanjung Malaysia, Kuala Lumpur, *Kategori 1-3 Hukuman Perbuatan-perbuatan yang dilarang di dalam Hutan Simpan Kekal dan lain-lain kesalahan hutan dan penalty jika disabitkan kesalahan di bawah Akta Perhutanan Negara 1984*.

Preliminary EIA for proposed Agriculture Plantation Project at PT5236,5237 & 5238, Mukim Ulu Nenggiri, Daerah Bertam, Gua Musang, Kelantan Darul Naim.

Public Participation in Forest Management is the Way Forward, 17 June 2011, 1 Nov. 2011 <<http://www.wwf.org.my/?12722/Public-Participation-in-Forest-Management-is-the-Way-Forward>>

“Putting the People in EIAs Assessing Environmental Impacts on Indigenous People”, Vol.51, No.1, *Malayan Naturalist*, August 1997, 34-38.

Rahmat Othman, “Pembalakan Haram Ketika Cuti Aidilfitri, *Berita Minggu* 21 Oct. 2007.

Ramy Bulan, *Indigenous People and the Right to Participate in Decision Making in Malaysia*, 23Feb.2012<<http://www2.ohchr.org/english/issues/indigenous/ExpertMechanism/3rd/docs/contributions/UniversityMalaya.doc>>.

Ray, R.G., *Forestry and Forest Classification in Malaysia*, (Ottawa: Department of Fisheries and Forestry, 1968).

Repetto, Robert and Gillis, Malcolm, eds., *Public Policies and the Misuse of Forest Resources A World Resources Institute Book*, (New York: Cambridge University Press, 1988).

Rifkin, Susan B. and Kangere, M., *CBR A Participatory Strategy in Africa*, 30.1.2012 <<http://www.asksource.info/cbr-book/cbr03-pdf>>.

Ross, M.S, *The Development of a Policy to Assist in Promoting the International Trade in Tropical Timber and the Conservation and Development of Humid Tropical Forests* (London and Amsterdam: Nederlands Houtbond, 1988).

Rusli Mohd and Amat Ramsa Yaman, *Overview of Forest Law Enforcement in Peninsular Malaysia*, (Kuala Lumpur: WWF Malaysia, 2001)

Sahabat Alam Malaysia, *Malaysian Environment in Crisis*, (Penang, Sahabat Alam Malaysia, 2006).

Samuel Ong, "The Green Debate", *Star Metro Central*, 2 Oct. 2012

Sarah Aziz, *Forest and Forestry Punctuated: regulating Peninsular Malaysia in the Next 50 Years*, Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 20-21 Mar. 2007, The National Conference on the Management and Conservation of Forest Biodiversity in Malaysia, CD ROM, (Putrajaya: Ministry of National Resources and Environment and Forestry Department, Peninsular Malaysia, 2007).

Sands, Philippe and Paolo Galizzi, eds., *Documents in International Environmental Law*, (United Kingdom: Cambridge University Press, 2004).

Schmithüsen, Franz, "Understanding Cross-sectoral Policy Impacts-Policy and Legal Aspects", *FAO Forestry Paper 142*, Eds., C.Dube, Yves and Franz Schmithüsen, (Rome: FAO, 2003), 5-44.

Selangor passes two key reform bills, 18 May 2011, 1 Nov. 2011 <<http://www.malaysiakini.com/news/160311>>.

Secretariat of the Convention on Biological Diversity, *Handbook of the Conservation on Biological Diversity*, 2nd Ed. (Secretariat of the Convention on Biological Diversity, Canada, 2003).

"Selangor to gazette 25 Orang Asli Villages Following Landmark Decision", *the Star*, 27 May 2010.

Shad Saleem Faruqi, *Document of Destiny The Constitution of the Federation of Malaysia*, (Petaling Jaya: Star Publications (Malaysia) Berhad, 2008).

Shaik Mohd Noor Alam bin Hussain, "Legal Aspects of Forestry", (1983) 1 *The Malaysian Current Law Journal* 64.

Shaik Mohd Noor Alam bin Hussain, "Legal Aspects of Forestry Part II", (1983) 1 *The Malaysian Current Law Journal* 112.

Shamsudin Ibrahim and Azian Mohti, "Post Tsunami events in Peninsular Malaysia: intensification of R&D in mangrove establishment for coastal protection", *Proceedings of the Regional Technical Workshop on "Coastal Protection in the Aftermath Indian Ocean Tsunami: What role for forests and trees?" at Khao Lak, Thailand, 28-31 August 2006*, Eds. Braatz, Susan *et al*, (Bangkok: FAO, 2007).

Sheridan, M and L. Lavrysen, eds., *Environmental Law Principles in Practice*, (Bruxelles: Bruylant, 2002).

Schmithüsen, Franz, "Understanding Cross-sectoral Policy Impacts-Policy and Legal Aspects", *FAO Forestry Paper 142*, Eds., C.Dube, Yves and Franz Schmithüsen, (Rome: FAO, 2003)

Sim Leoi Leoi, "Malaysia a Net 'Carbon Sink'", *The Star*, 14 Dec. 2007.

Sinha, Prabhas Chandra, *Guidelines For Human Environment and Sustainable Development*, (New Delhi: SBS Publishers & Distributors Pvt. Ltd., 2006).

Stop proposed Ulu Muda heli-logging, 10.6.2003, 28.6.2012
<<http://www.malaysiakini.com/letters/25460>>.

Subramaniam, Yogeswaran, "Common Law Native Title in Malaysia: Selected Issues for Forest Stakeholders", [2010] 1 *Malayan Law Journal* xv.

Suksuwan, S, *Royal Belum State Park-Royal Forest*, WWF-Malaysia, 11 Nov. 2009
<http://www.wwf.org.my/about_wwf/what_we_do/forests_main/forest_protect/protect_projects/project_royal_belum>.

Suluhbidai, "Impak Alam, tanah runtuh keuntungan dan tangisan", *Utusan Online*, 6 December 2008, 13 December 2008
<http://www.utusan.com.my/utusan/info.asp?y=2008&dt=1206&pub=utusan_malaysia&sec=Impak Alam&pg=al_0.1_hm>.

Sulong Mohamad and Katiman Rostam, *Menempa Kemakmuran di Bumi Bertuah... Pembangunan Tanah di Malaysia*, (Kuala Lumpur: Federal Land Development Authority (FELDA), 2007).

Tan Cheng Li, "Sanctuaries Sacrificed", *The Star* 7 July 2009, 25 July 2009 <<http://thestar.com.my/gogreenlivegreen/story.asp?file=/2009/7/7/gogreenlivegreen/4248973&sec=gogreenlivegreen>>.

Thang, Hooi Chiew, *Asia-Pacific Forestry Sector Outlook Study II - Malaysia Forestry Outlook Study*, (Bangkok, Thailand: Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific, 2009).

Thang, Hooi Chiew, "Conserving Biological Diversity in Managed Tropical Forests, Country Studies: Asia, Malaysia", *Proceedings of a Workshop at Perth, Australia, Nov. 30 – Dec. 1, 1990*. Eds. Blockhus, J M, et al., (Cambridge: IUCN and ITTO, 1992).

Thang, Hooi Chiew, *Malaysia Forestry Outlook Study*, (Bangkok: FAO, 2009).

Thang, Hooi Chiew, "Towards Achieving Sustainable Forest Management In Peninsular Malaysia", (2002) 65 No.4 *The Malaysian Forester*, 210-226.

The Environment Encyclopedia and Directory 2001, Vol.3, 3rd Ed., (United Kingdom: Europa Publications Limited, 2000).

The Secretariat of the Convention on Biological Diversity, *Handbook of the Conservation on Biological Diversity*, 2nd ed., (Canada: Secretariat of the Convention on Biological Diversity, 2003).

Thompson, Ian, et al., *Review of the Status and Trends of, and Major Threats to, Forest Biological Diversity*, (Canada: Secretariat of the Convention on Biological Diversity, 2002).

Trumper, Kate et al., *The Natural Fix? The Role of Ecosystems in Climate Mitigation. A UNEP Rapid Response Assessment*, (Cambridge: UNEP, 2009),

Tsunami: What role for forests and trees?” at Khao Lak, Thailand, 28-31 August 2006, Eds. Braatz, Susan *et al*, (Bangkok: FAO, 2007).

Tuan Shaik Mohd Noor Alam bin Hussain, Legal Aspects of Forestry, (1983) 1 *The Malaysian Current Law Journal* 64-65.

“Tumbuhan hutan tropika hiasi Kota Iskandar”, *Berita Harian*, 11 Nov. 2009, 9 June 2011 <<http://www.iskandarmalaysia.com.my/news/011111/tumbuhan-hutan-tropika-hiasi-kota-iskandar>>.

Tunku Shamsul Bahrin and P.D.A Perera, *FELDA 21 Years of Land Development*, (Kuala Lumpur: P.Pelita, 1977).

Tunku Sofiah Jewa, *Public International Law: A Malaysian Perspective*, (Kuala Lumpur: Pacifica Publications, 1996).

Tunku Sofiah Jewa, Salleh Buang and Yaacob Hussain Merican, Eds. *Tun Mohamed Suffian's An Introduction to the Constitution of Malaysia*, 3rd Ed., (Petaling Jaya: Pacifica Publications, 2007).

UN Department of Economic and Social Affairs Division for Sustainable Development, *Agenda 21*, 2009, 21 April 2012, <http://www.un.org/esa/dsd/agenda21/res_agenda21_26.shtml>.

Vandana Shiva, *Forestry Crisis and Forestry Myths A Critical Review of Tropical Forests: A Call for Action*, (Penang: World Rainforest Movement, 1987).

Watson, R T, et al., *Land Use, Land-Use Change, and Forestry*, (Cambridge: Cambridge University Press, 2000).

Wiessner, Siegfried, Audiovisual Library of International Law, *United Nations Declaration on the Rights of Indigenous* New York, 13 Sept. 2007.

Wiessner, Siegfried, *United Nations Declaration on the Rights of Indigenous*, 2008, 24 Feb. 2012 <http://untreaty.un.org/cod/avl/ha/ga_61-295/ga_61-295.html> 11.

Wiessner, S, The Hague Conference (2010) *Rights of Indigenous Peoples* 1 Dec. 2012 <www.ila-hq.org/.../9E2AEDEG9-BB41-42BA-9999FO359E79F62D>

Williams, Michael, "Forests" *The Earth As Transformed by Human Action Global and Regional Changes in the Biosphere over the Past 300 Years*, Ed. Turner II, B.L., (USA: Cambridge University Press, 1990).

World Health Organisation, (1999), *Community participation in local health and sustainable development: a working document on approaches and techniques, European Sustainable Development and Health Series: 4*, 1999, 10 Feb. 2012 <www.health.vic.gov.au/localgov/downloads/who_book4.pdf>.

WWF, *Tropical Forests*, (Malaysia: WWF, 1990).

WWF, *High Conservation Value Forest (HCVF): Toolkit for Malaysia: A national guide for identifying, managing and monitoring High Conservation Value Forests*, (WWF-Malaysia: Selangor, 2009).

Wong, Elizabeth, *Sagong Tasi land rights case conclusion – Selangor Pakatan Rakyat Government Statement*, 26 May 2010, 21 April 2012 <<http://www.rengah.c2o.org/news/article.php?identifer=de080lt>>.

World Health Organization, *Social determinants of health-Social participation*, 10 Feb. 2012, 2008 <http://www.who.int/social_determinants/thecommission/countrywork/within/socialparticipation/en/index.html#>.

Yong Hoi Sen, ed., *Biodiversity and National Development: Acheivements, Opportunities and Challenges*, (Kuala Lumpur: Akademi Sains Malaysia, 2009).

Annual Report and Statistic

FELDA, Annual Report 2008, *Land Development*, (Kuala Lumpur: FELDA, 2008).

Food and Agriculture Organization of the United Nations, *State of the World's Forests*, 2011, 31.5.2011, <<http://www.fao.org/docrep/013/i2000e/i2000e00.pdf>>.

Food and Agriculture Organization, *Global Forest Resources Assessment 2010*, (Rome: Food and Agriculture Organization of the United Nations, 2010).

Malaysia, Bahagian Perancangan dan Penyelidikan Jabatan Hal Ehwal Orang Asli, *Data Maklumat Asas Jabatan Hal Ehwal Orang Asli Tahun 2008*, (Kuala Lumpur: Bahagian Perancangan dan Penyelidikan Jabatan Hal Ehwal Orang Asli, 2008).

Malaysia, Department of Statistics, *Population Distribution and Basic Demographic Characteristics 2010*, (Putrajaya: Department of Statistics Malaysia, 2011).

Malaysia, Economic Planning Unit, Prime Minister's Department, *The Malaysian Economy in Figures 2008*, (Kuala Lumpur: Percetakan Nasional Malaysia Berhad, 2008).

Malaysia, Ministry of Plantation Industries and Commodities, *Statistics on Commodities 2004*, 18th ed. (Putrajaya: Ministry of Plantation Industries and Commodities, 2004).

Malaysia, Malaysian Timber Council, *Forestry & Environment (Facts & Figures)*, Jan. 2011, 25 May 2022 <<http://www.mtc.com.my/info/images/stories/pdf/factsheets.pdf>>.

Malaysia, Ministry of Natural Resources and Environment, National Biological Biodiversity Policy, PowerPoint slides, 3 Aug. 2012 <<http://www.cbd.int/doc/meetings/nbsap/nbsapcbw-seasi-01/other/nbsapcbw-seasi-01-my-en.pdf>>.

Negeri Kelantan, Jabatan Perhutanan, *Laporan Tahunan 2004*, (Negeri Kelantan: Jabatan Perhutanan Negeri Kelantan, 2004).

Negeri Sembilan, Forestry Department, *Annual Report 2005*, (Negeri Sembilan: Forestry Department of Negeri Sembilan, 2005).

Peninsular Malaysia, Forestry Department, *Forestry Statistics Peninsular Malaysia*, (Kuala Lumpur: Forest Department, Peninsular Malaysia, 2006).

Peninsular Malaysia, Forestry Department, *Annual Report 2007*, (Kuala Lumpur: Forestry Department Peninsular Malaysia, 2008).

Peninsular Malaysia, Forestry Department, *Annual Report 2006*, (Kuala Lumpur: Forestry Department, Peninsular Malaysia, 2006).

Semenanjung Malaysia, Jabatan Perhutanan, *Laporan Inventori Hutan Nasional Ke Empat Semenanjung Malaysia*, (Kuala Lumpur: JPSM, 2007).

UN Department of Economic and Social Affairs Division for Sustainable Development, *Agenda 21*, 2009, 21 April 2012,

<http://www.un.org/esa/dsd/agenda21/res_agenda21_26.shtml>.

UNREDD official website, See 12 Nov. 2012 <http://www.un-redd.org/Stakeholder_Engagement/Guidelines_on_FPIC/tabid/55718/Default.aspx>.

Official Portal of the Government Department

Malaysia, Ministry of Tourism, Virtualmalaysia.com-The Official e-Tourism for the Ministry of Tourism Malaysia, *Matang Mangrove Forest Reserve*, 2009, 11 Nov. 2009 <<http://www.virtualmalaysia.com/destination/matangpercent20mangrovepercent20foresterpercent20reserve.html>>.

Malaysia, Official website of Department of Environment, Ministry of Natural Resources and Environment, 4 Sep. 2012 <<http://www.doe.gov.my/portal/developer/eia/eia-general-information/>>

Malaysia, Official Portal of Economic Planning Unit Prime Minister's Department, *First Malaysia Plan, 1966-1970*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/first>>. See also <<http://pmr.penerangan.gov.my>>.

Malaysia, Official Portal of Economic Planning Unit Prime Minister's Department, *Second Malaysia Plan, 1971-1975*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/second>>

Malaysia, The Economic Planning Unit, Prime Minister's Department, *The Third Malaysia Plan, 1976-1980*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/third>>

Malaysia, Official Portal of Economic Planning Unit Prime Minister's Department, *Fourth Malaysia Plan, 1981-1985*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/fourth>>

Malaysia, Official Portal of Economic Planning Unit Prime Minister's Department, *Sixth Malaysia Plan, 1990-1995*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/sixth>>

Malaysia, Official Portal of Economic Planning Unit Prime Minister's Department, *Seventh Malaysia Plan, 1996-2000*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/seventhmalaysiaplan>>

Malaysia, Official Portal of Economic Planning Unit Prime Minister's Department, *Eighth Malaysia Plan, 2001-2005*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/eightmalaysiaplan>>

Malaysia, Official Portal of Economic Planning Unit Prime Minister's Department, *The Tenth Malaysia Plan, (10th MP)*, 1 June 2010, 1 Mar. 2011 <<http://www.epu.gov.my/rmksepuluh>>

Malaysia, Dept. of Drainage and Irrigation, *Dam Location*, 14 July 2009, 4 Dec. 2009 <http://www.water.gov.my/index.php?option=com_wrapper&Itemid=835>.

MTC website, *What the National Forestry Act says...*, 25 Oct. 2005, 31 May 2011 <<http://www.mtc.com.my>>.

Official Website of Forest Department Peninsular Malaysia, *Maklumat Perangkaan Hutan Bagi Tahun 2011*, 18 Dec. 2012, <www.foresttr.gov.my/index.php/ms/pusat-sumber/statistik.html>.

Pahang, Department of Agriculture, 2006, 12 May 2010 <http://sdap.pahang.gov.my/index.php?option=com_content&task=view&id=28&itemid=29>

Peninsular Malaysia, Dept. of Town and Country Planning, *The National Agricultural Policy (NAP3)*, 2007, 21 Aug. 2007 <<http://www.npptownplan.gov.my/index.php?module=contentExpress&func=display&ceid=59>>.

Peninsular Malaysia, Official Website Federal Department of Town and Country Planning, *National Physical Plan 2*, 28 Aug. 2012 <[http://www.townplan.gov.my/devo/download/National%20Physical%20Plan\(kecik\)](http://www.townplan.gov.my/devo/download/National%20Physical%20Plan(kecik))>.

Peninsular Malaysia, Official Website of Townplan, Federal Department of Town and Country Planning Peninsular Malaysia, Ministry of Housing and Local Government, *Review Central Forest Spine (CFS1 and CFS2)-Masterplan for linkages*, 22 Feb. 2011, 11 May 2011 <http://www.townplan.gov.my/new_web/english/service_regional_plan_forest_spine.php>.

Rancangan Fizikal Negara ke-2 at <<http://www.townplan.gov.my/devo/download/RFN/Bab%202%20Goals,%20Objectives%20and%20Principals.pdf>>.

Semenanjung Malaysia, Jabatan Perhutanan, Laman Web Rasmi JPSM, *Kawasan Tadahan Air*, 2006, 12 Mar. 2006 <<http://www.forestry.gov.my/kawtadahanair.html>>.

Semenanjung Malaysia, Jabatan Perhutanan, Laman Web Rasmi JPSM, *Jenis-jenis Hutan*, 12 Mar. 2006 <<http://www.jpsm.gov.my/jenishutan.html>>.

Interview

Meeting with Deputy Director General (Development), Department of Environment, Putrajaya on 8 Oct. 2012.

Meeting with JAKOA, Kuala Lumpur on 21 Oct. 2011.

Interview with Director of the SFD of Johor on 22 Apr. 2009.

Interview with the Director of the SFD of Penang on 17 Apr. 2009.

Interview with Assistant Director of the SFD of Perak on 25 Feb. 2009.

Interview with Director of the SFD of Terengganu on 9 Feb. 2009.

Interview with Director of the SFD of Selangor on 6 Feb. 2009.

Interview with Assistant Director of Operational Unit, the SFD of Perlis on 25 Apr. 2008.

Interview with Assistant Director of the SFD of Kelantan Forestry Department on 12 Mar. 2008.

Interview with Assistant Director of the SFD of Negeri Sembilan/Melaka on 5 Mar. 2008.

Interview with Director of Forest Management Unit, Forest Department Peninsular Malaysia on 18 Feb. 2008.

Interview with Officer in Charge, World Wide Fund for Nature, Kuala Lumpur on 4 Oct. 2007.

Interview with Coordinator, Sahabat Alam Malaysia, Penang (Peninsular Office) on 1 Oct. 2007.

Related websites

Access to information, public participation and access to justice in environmental matters, 15 May 2008, 27 May 2008, <<http://europa.eu/scadplus/leg/en/lvb/128056.htm>>.

Convention on Biological Diversity, *REDD+ and Biodiversity Benefits*, 30 Dec 2013, <<https://www.cbd.int/forest/redd-plus/default.shtml>>.

Definition of forest in website, 19 June 2007 <<http://www.wordnet.princeton.edu/perl/webwn/>>. <<http://www.planetpals.com/ecodictionary.html/>>. <<http://www.forest.nsw.gov.au/education/glossary/default.asp/>> <<http://www.iowadnr.com/forestry/definitions.html/>> <<http://www.srs.fs.usda.gov/sustain/data/researchers/glossary.htm/>> .

Eartquake Intensity in Malaysia, 25 July 2009 <http://www.met.gov.my/index.php?option=com_content&task=view&id=265&Itemid=367>

FAO-SDRN - Agrometeorology Group, *World Climate*, 1997, 17 Feb. 2007 <<http://www.blueplanetbiomes.org/climate.htm/>> .

GreenFacts 2001-2012, *Scientific Facts on Forests*, 29 Aug. 2012 <<http://www.greenfacts.org/en/forests/forests-greenfacts.pdf>>.

Green Fact Scientific Board, *Green Facts –Facts on Health and the Environment*, 5 May 2011, 27 May 2011 <<http://www.greenfacts.org/en/forests/1-3/2-extent-deforestation.htm#1p0>>

How CITES works 30 Sept. 2010, <<http://www.cites.org/eng/disc/how.stml>>.

Malaysia's National Policy on Biodiversity (Official declaration: Thursday, April 16 1998, Kuala Lumpur, Malaysia, Ministry of Science, Environment and Technology), ARBEC's website: <<http://www.arbec.com.my>> 19 Jul. 2012.

Malaysia, Ministry of Natural Resources and Environment, National Biological Biodiversity Policy, powerpoint slides, 3 Aug. 2012 <<http://www.cbd.int/doc/meetings/nbsap/nbsapcbw-seasi-01/other/nbsapcbw-seasi-01-my-en.pdf>>.

Malaysia, Ministry of Science, Technology and the Environment, Dasar Alam Sekitar Negara/National Policy on the Environment, 2002, 19 July 2012 <http://www.doe.gov.my/portal/wp-content/uploads/2010/07/dasar_alam_sekitar_negara.pdf>.

Map of UNEP-WCMC, 2000, 12 Jan. 2009 <<http://www.unep-wcmc.org>>.

20 June 2012 <<http://www.langkawigeopark.com.my/v2/index.php/geoheritage-a-geoforest-park/the-kilim-karst-geoforest-park/7-geopark-info>>.

Mark McGinley, World Resources Institute, Malaysia - *Forests, Grasslands, and Drylands Factsheet (WRI)* Encyclopedia of Earth. Eds. Cutler J. Cleveland, 14 Oct. 2009, 28 Nov. 2009 <[http://www.eoearth.org/article/Malaysia_-_Forests,_Grasslands,_and_Drylands_Factsheet_\(WRI\)](http://www.eoearth.org/article/Malaysia_-_Forests,_Grasslands,_and_Drylands_Factsheet_(WRI))>

See 20 June 2012 <<http://whc.unesco.org/en/list>>.

See 10 Dec. 2008 <<http://www.mengo.org>>.

See 10 Dec. 2008 <<http://www.mengo.org/aboutus.shtml>>.

See 10 Dec. 2008 <<http://www.mengo.org/index2.shtml>>.

See 15 Dec. 2008

<http://www.wwf.org.my/about_wwf/what_we_do/forests_protect/protect_projects/project_royal_belum/royal_issues/index.cfm>.

The CITES Appendix 30 Sept. 2010 <<http://www.cites.org/eng/app/index.shtml>>.

Tye, Timothy, *Asia Explorers-The Authoritative Guide For Experiencing Asia, Matang Mangrove Forest Reserve*, 2009, 18 Nov. 2009
<http://www.asiaexplorers.com/malaysia/matang_mangrove_forest_reserve.htm>.

LIST OF PUBLICATIONS AND PAPERS PRESENTED

Adzidah Yaakob, “Multiple Uses of Forest in Peninsular Malaysia and Its Significance in the Holy Quran”, *FSU Bulletin Faculty of Syariah and Law January-December 2013*, (Bangi: FSU, 2014).

Abidah Abdul Ghafar (Phd) and Adzidah binti Yaakob, “Vicarious Liability in Civil and Islamic Law Of Torts: An Overview”, Faculty of Syariah and Law, USIM *International Seminar on Usul Fiqh (i-SUFI 2013)*, 23-24 Oct. 2013, CD ROM, (Bangi: FSU, 2013).

Adzidah Yaakob and Izawati Wook, “Compromising Forest Environment in Peninsular Malaysia: The Rights of Public to Environmental Information and the Significance of Principle 10 of the Rio Declaration”, *2nd International Seminar on Syariah and Common Law 2012 (ISCOL 2012)* at Faculty of Syariah and Law, USIM, 6-7 March 2012, (Kuala Lumpur: FSU, 2012).

Adzidah Yaakob, “Malaysia To Go Green: The Environmental Law Perspective On Green Technology”, (2011) 5th Series *Syariah And Law Discourse*, (Kuala Lumpur: FSU, 2012).

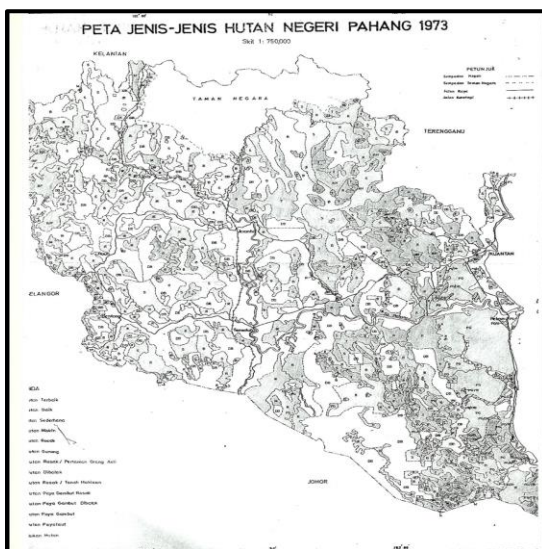
Adzidah Yaakob, “Public Participation in Conservation of Forests: A Special Reference to Peninsular Malaysia”, Department of Geography, University of Aegean, Lesvos, Greece, 3-8 June 2008, *International Earth Conference 2008*, CD ROM, (Greece: Aegean University, 2008).

APPENDICES

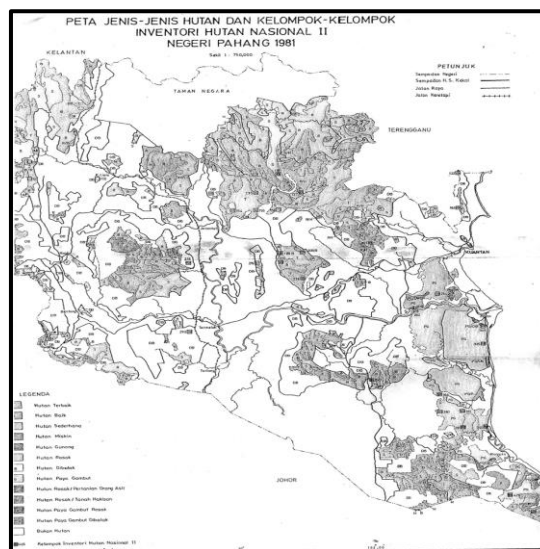
APPENDIX I (A-K) – FORESTED AREA BY STATE IN PENINSULAR MALAYSIA IN *INVENTORI HUTAN NASIONAL/NATIONAL FOREST INVENTORY (IHN 1-4)*

Appendix I (a) Forested Area State of Pahang (IHN 1-IHN 4)

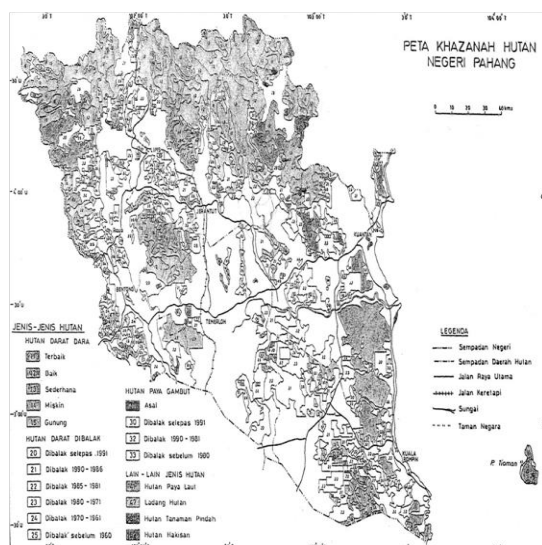
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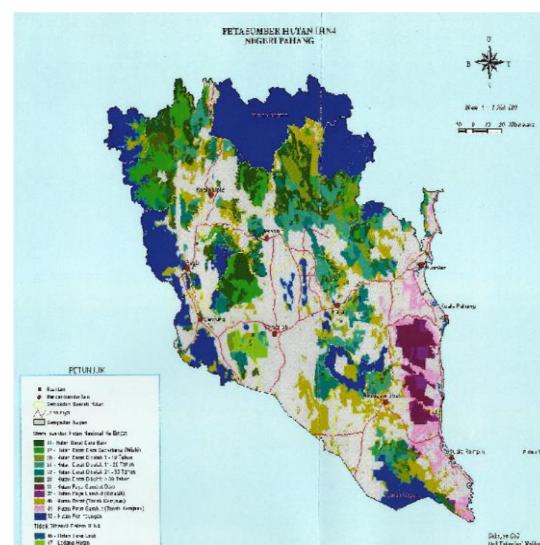
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IHN 3

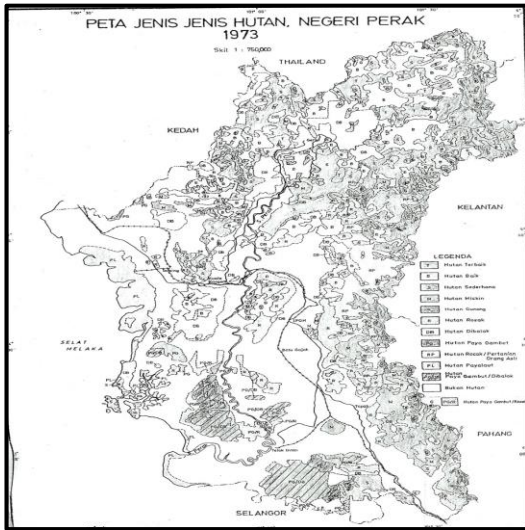


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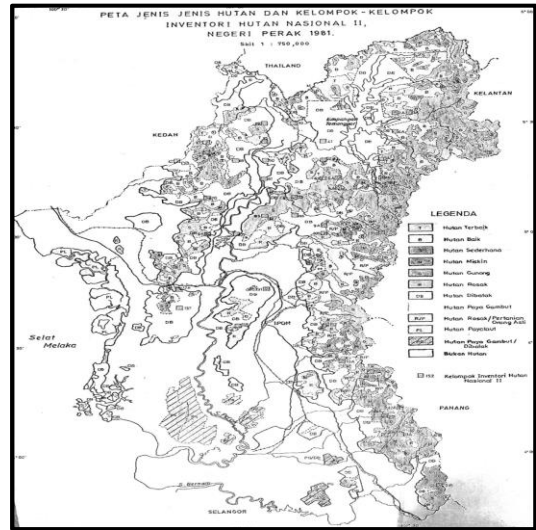


Appendix I (b) Forested Area State of Perak (IHN1-IHN4)

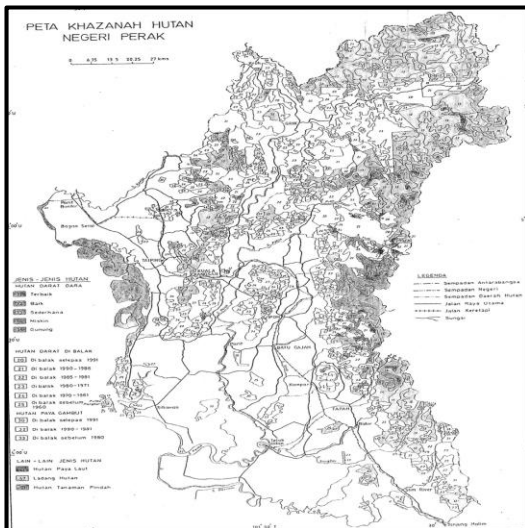
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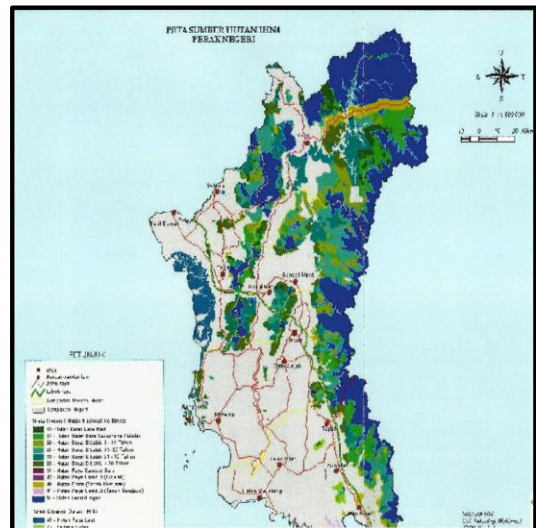
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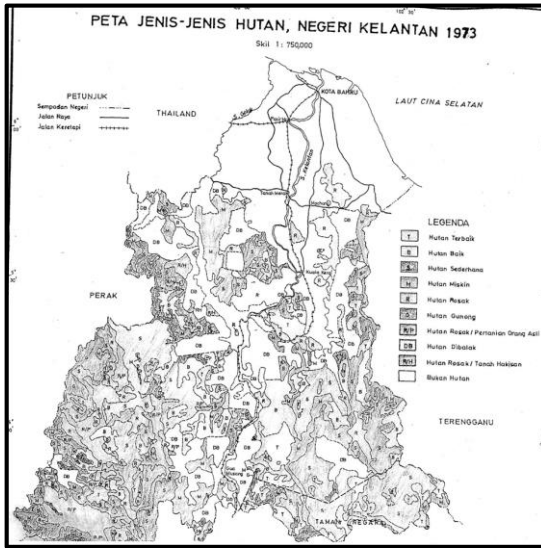


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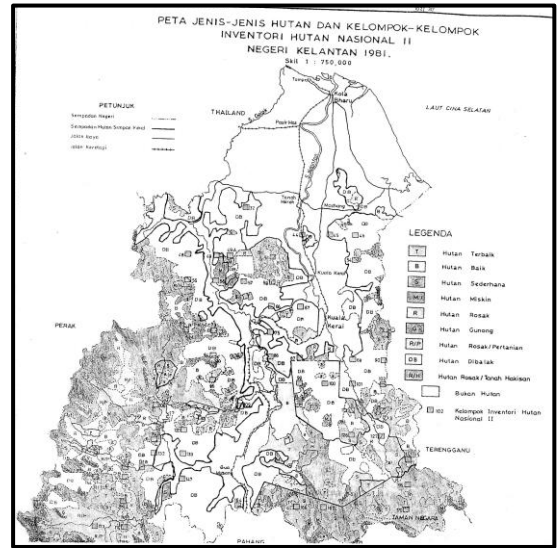


Appendix I (c) Forested Area State of Kelantan (IHN I-IHN 4)

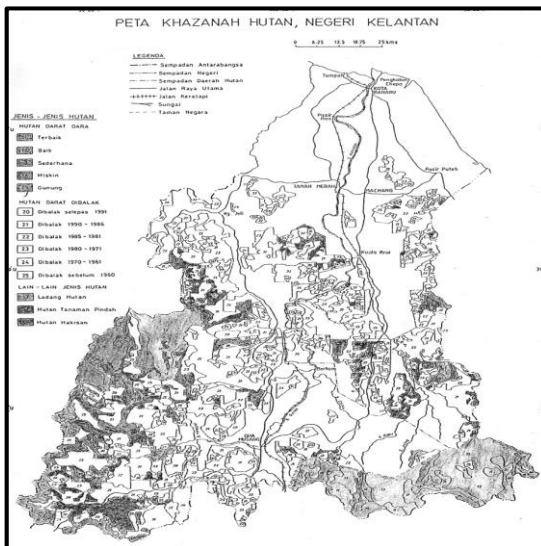
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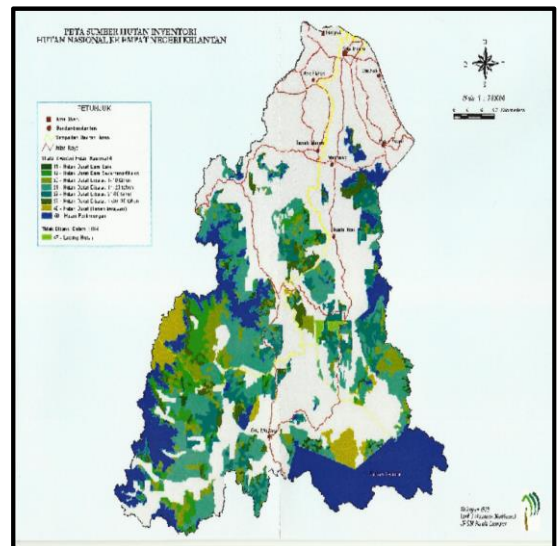
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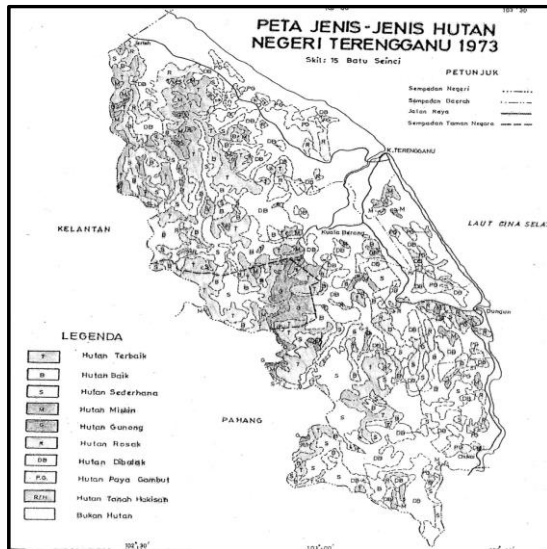


IHN 4



Appendix I (d) Forested Area State of Terengganu (IHN 1-IHN 4)

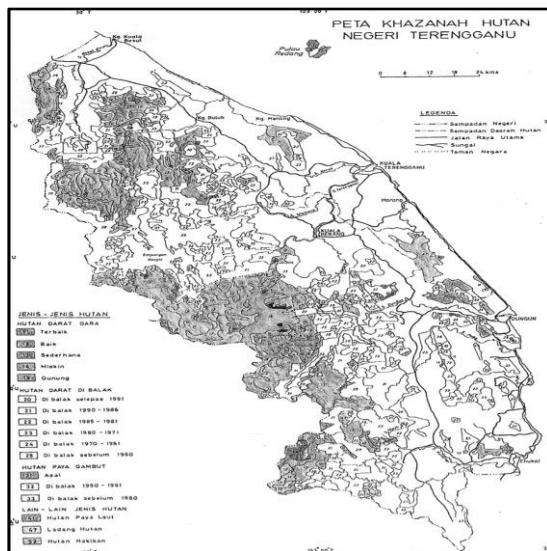
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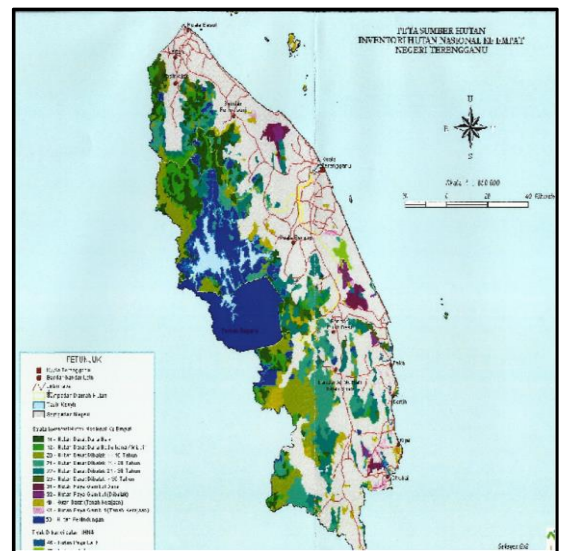
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IHN 3

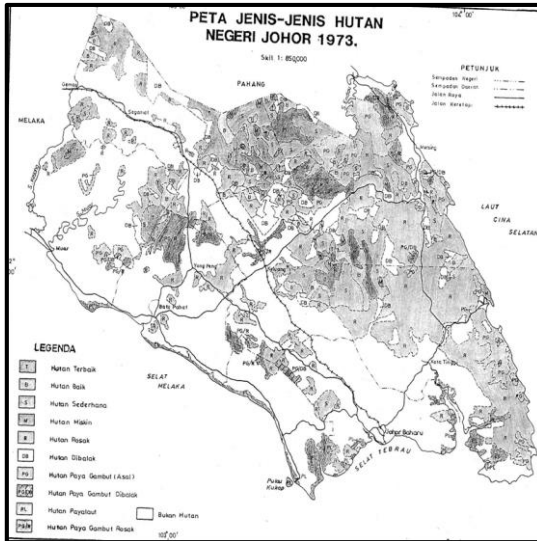


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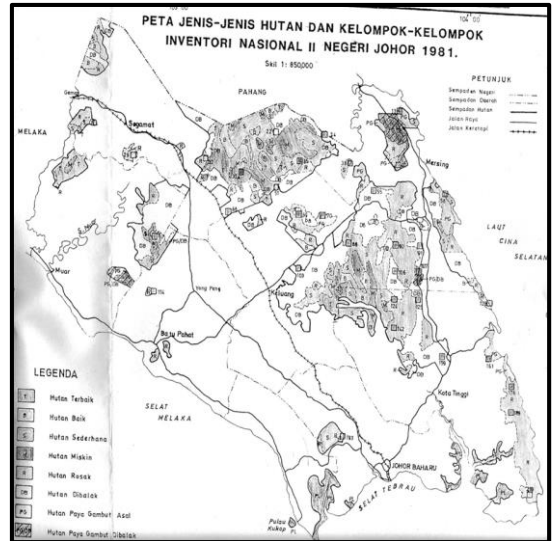


Appendix I (e) Forested Area State of Johor (IHN 1-IHN 4)

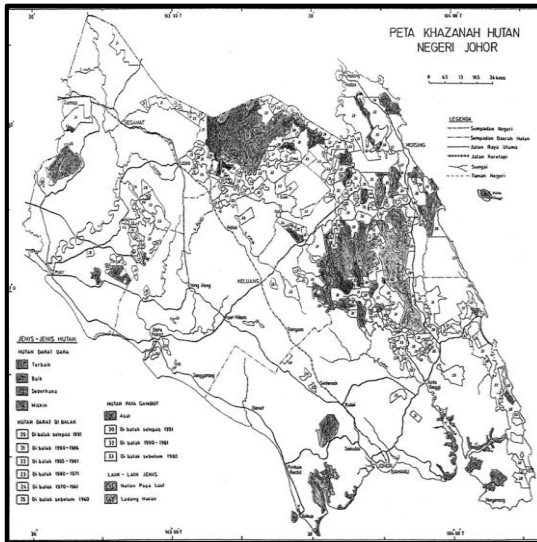
IHN 1



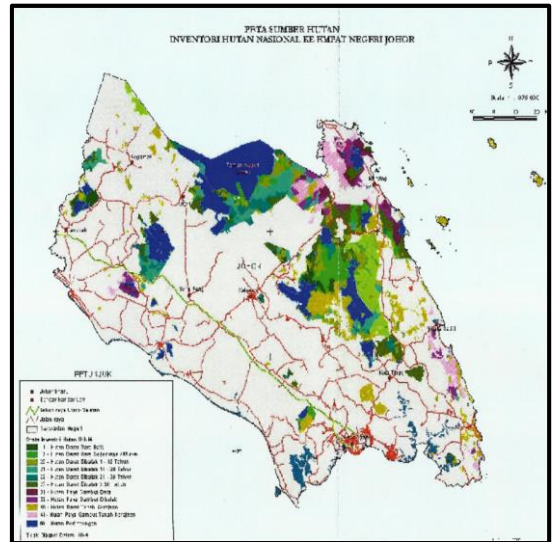
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IHN 3

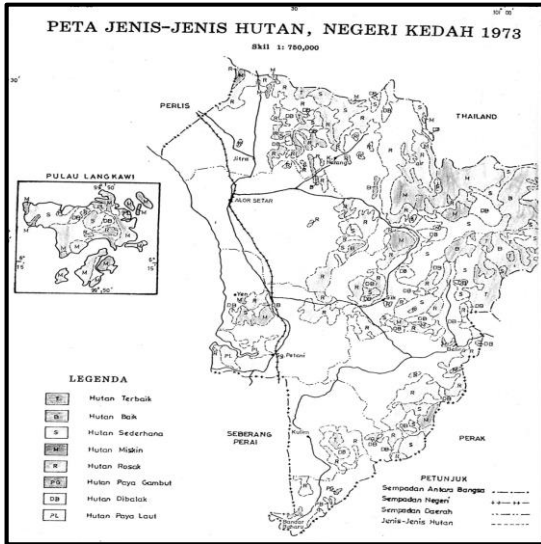


IHN 4

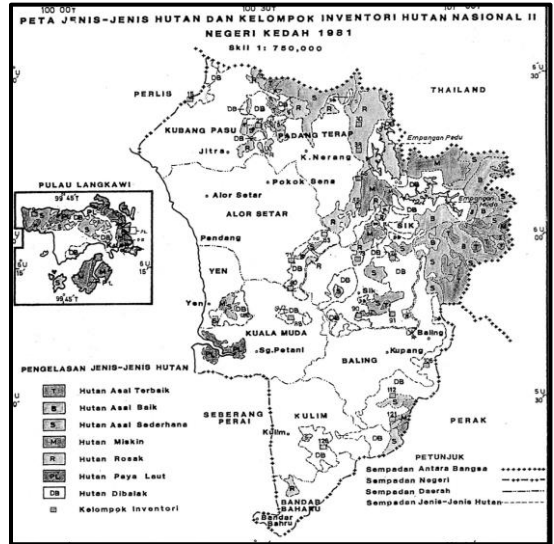


Appendix I (f) Forested Area State of Kedah (IHN I-IHN 4)

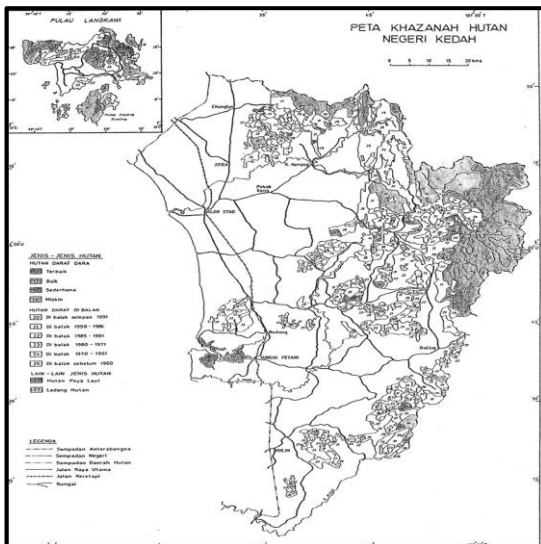
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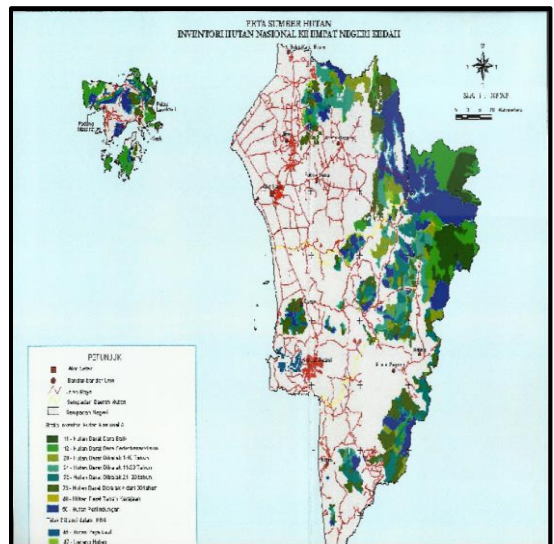
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IHN 3

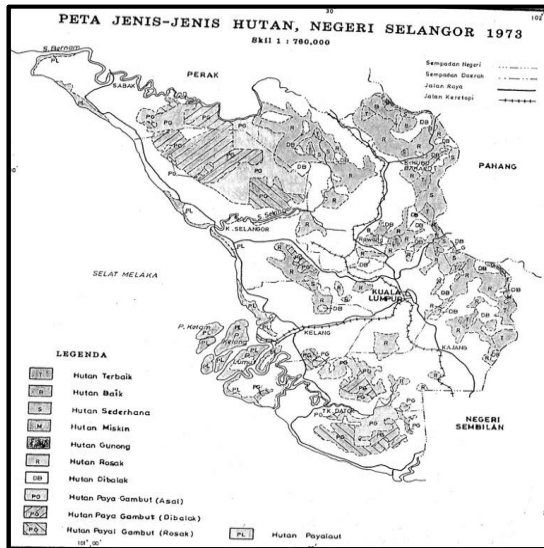


IHN 4

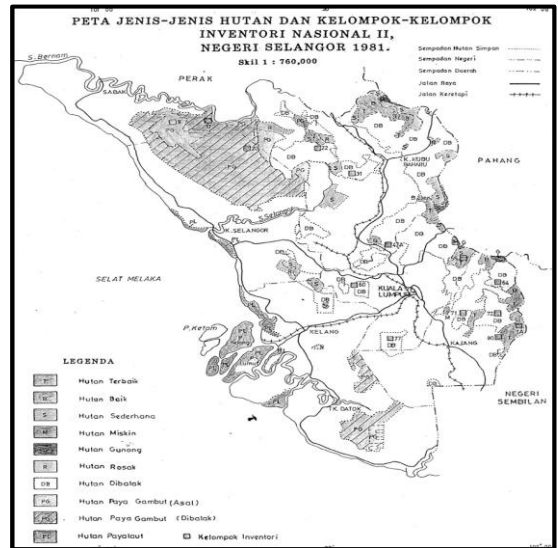


Appendix I (g) Forested Area State of Selangor (IHN 1-IHN 4)

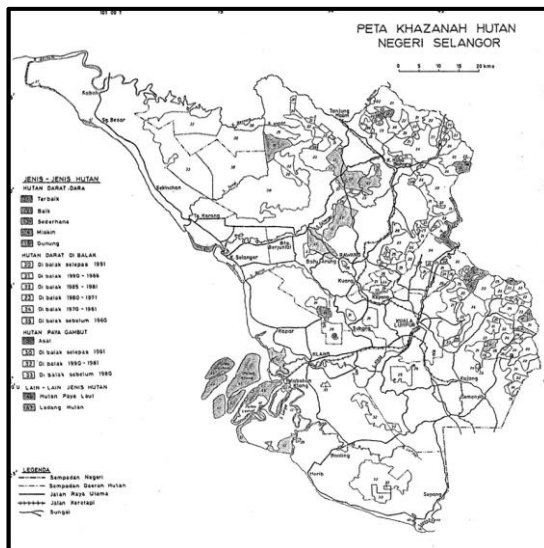
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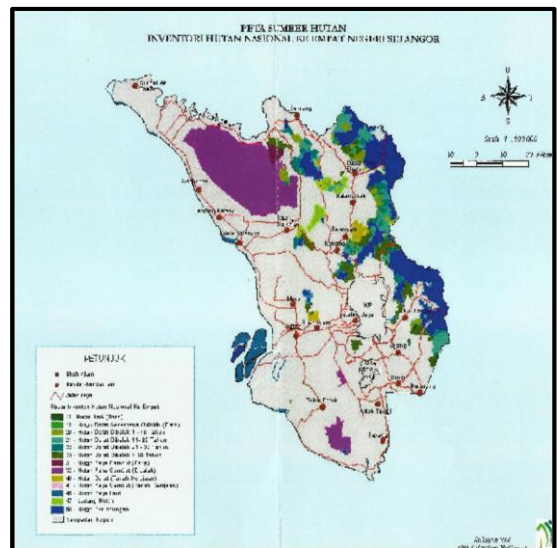
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IHN 3

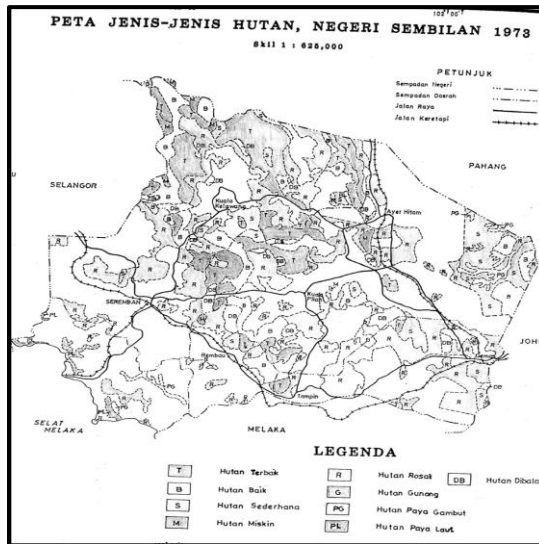


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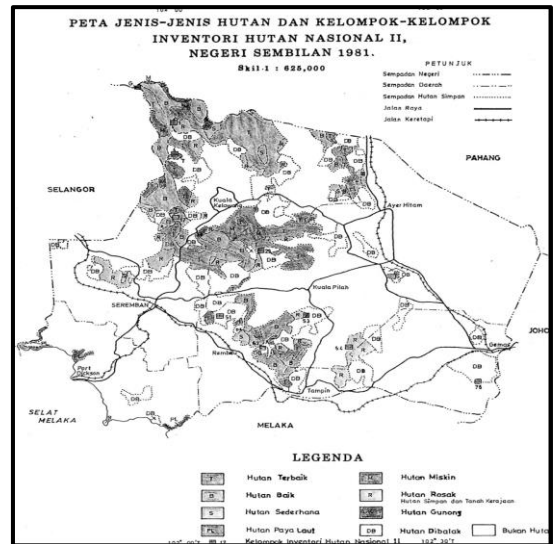


Appendix I (h) Forested Area State of Negeri Sembilan IHN I-IHN 4

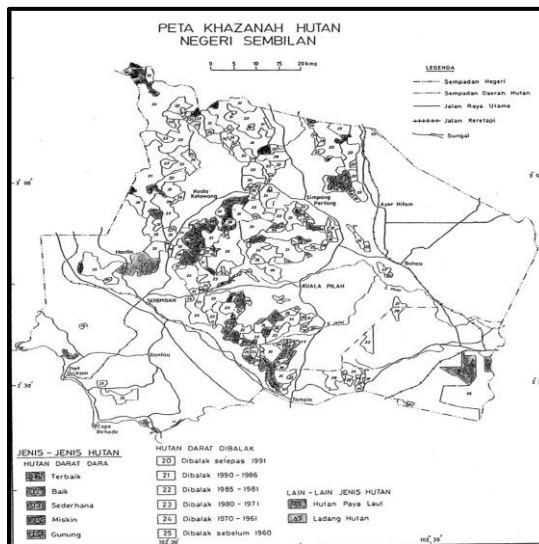
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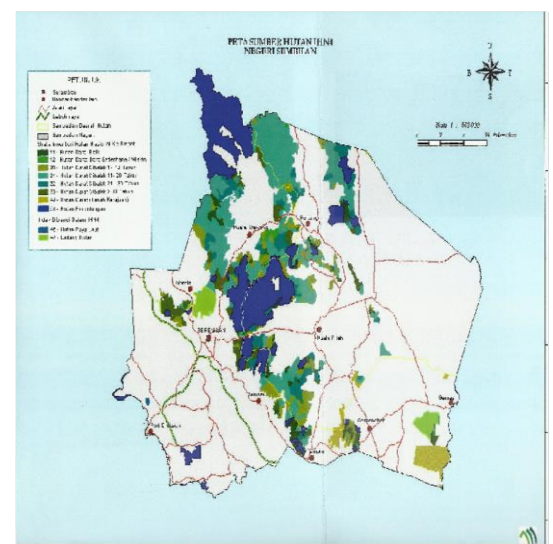
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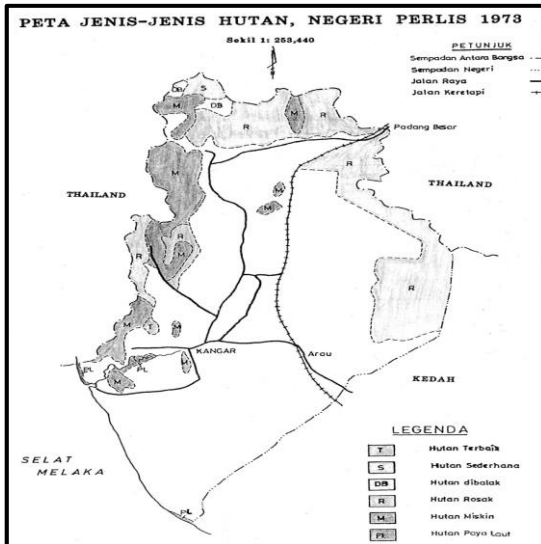


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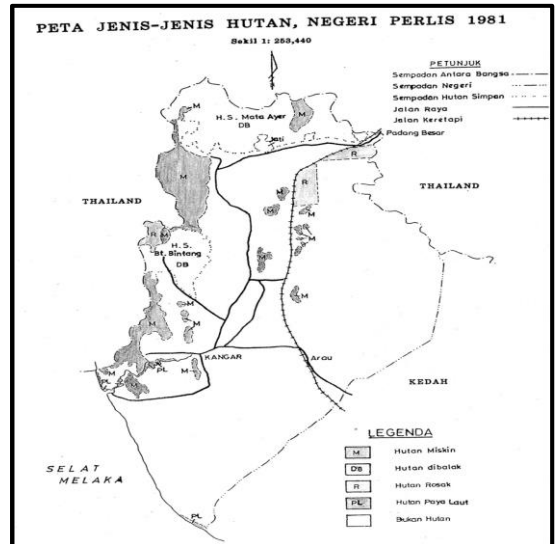


Appendix I (i) Forested Area State of Perlis (IHN 1-IHN 4)

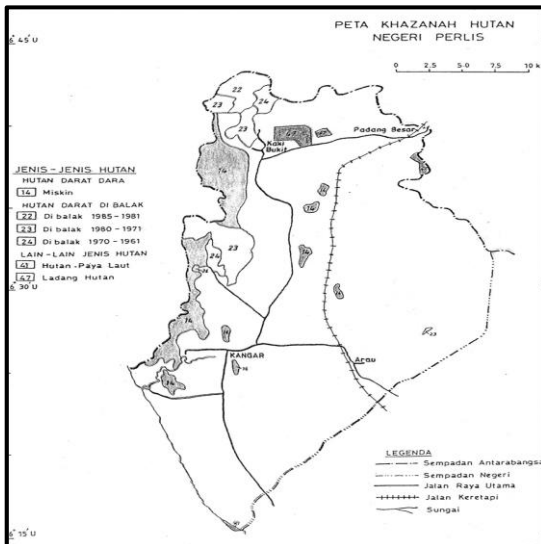
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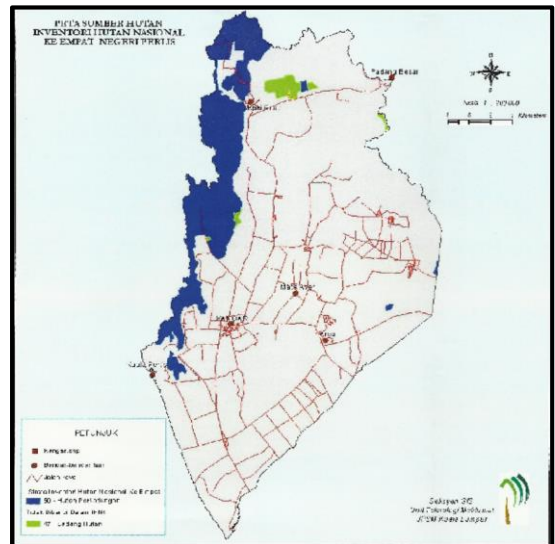
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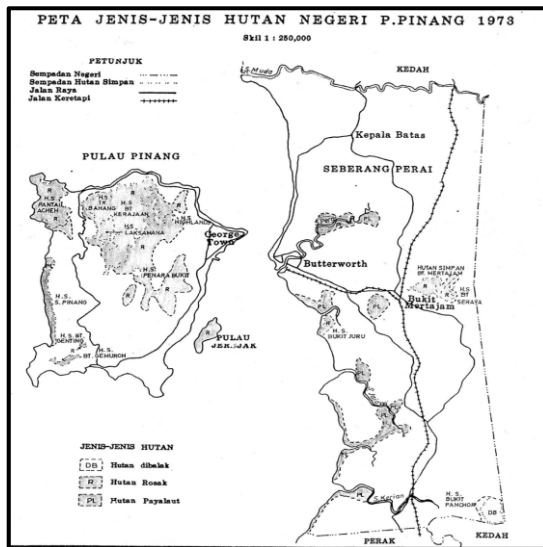


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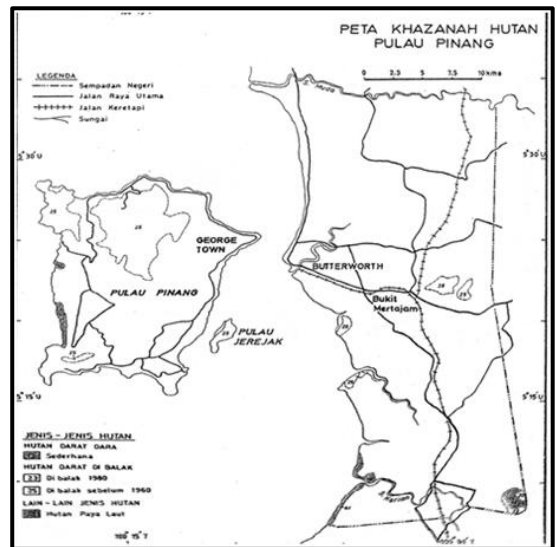


Appendix I (j) Forested Area State of Pulau Pinang (IHN 1- IHN 4)

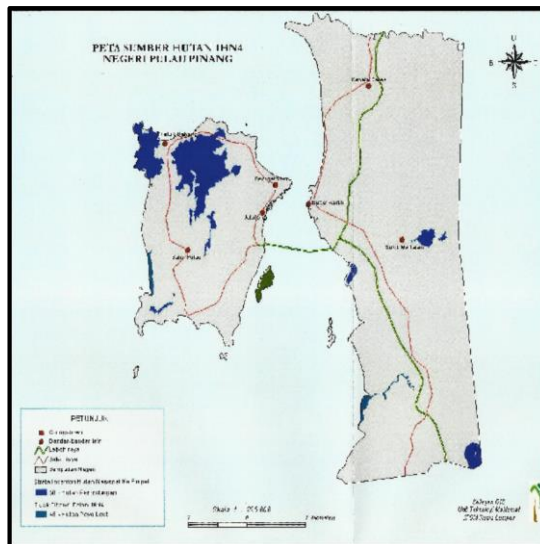
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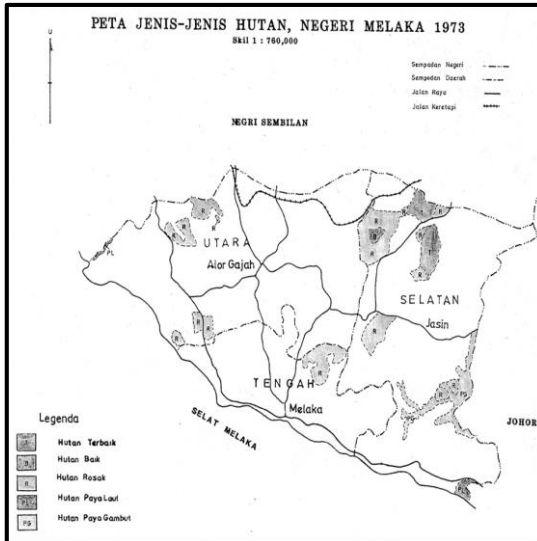


IHN 4



Appendix I (k) Forested Area State of Melaka (IHN 1-IHN 4)

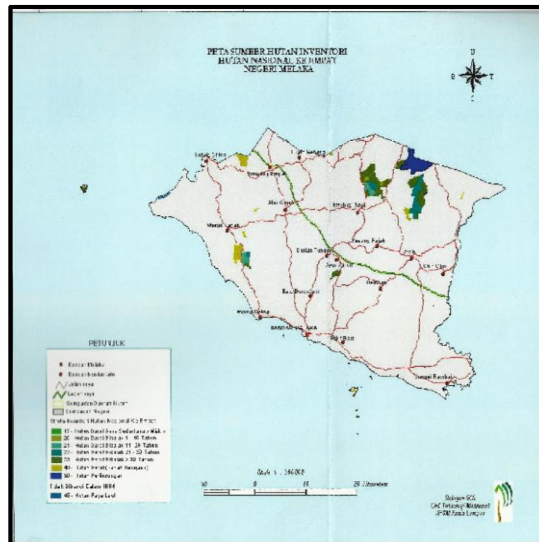
IHN 1



IHN 2



IHN 4



APPENDIX II (A-C): QUESTIONNAIRES FOR INTERVIEW

Appendix II (a): Questionnaire for Forestry Department (Head Quarter and states) and *Sahabat Alam Malaysia* (Friends of the Earth Malaysia-NGO)

5.2.1.1 Definition of forest and its percentage in Peninsular Malaysia

A. Definition of forest

- 1) How does Sahabat Alam Malaysia (SAM) define forests in Peninsular Malaysia?

B. Forest percentage in Peninsular Malaysia

- 1) Percentage of forests covers in Peninsular Malaysia;
 - i. Is the percentage an accurate reflection of forest cover?
 - ii. How was the percentage of forest cover being determined or calculated?
 - iii. Did the percentage of forest cover include secondary forests and forest outside the PFE (i.e.: plantation, bushes, landscape plants and etc.)?
 - iv. Does every state have a particular or specific percentage of forest cover to be observed?

5.2.1.2 Physical development threats to forest

A. Impact on urbanization against forest

- 1) What is the impact of urbanization in your state?

B. The role of the State Forestry Departments (SFD) of Peninsular Malaysia in development of forest

- 1) To what extent state forestry department is involved in the process of developing forested land?
- 2) How did the authoritative body arrive at a decision to gazette forest area as PFE?
- 3) How to reconcile the gazetting of PFE with the 1985 amendment of Environmental Quality Act which prescribed 19 activities which allows particular PFE to be utilized?

5.2.1.3 Forest laws and rules

A. Practice of forest law and policy by forest conservators

- 1) What are the factors which contribute to the tendency of adopting different forest law and policy among states forestry departments in Peninsular Malaysia?

- 2) In Peninsular Malaysia, we have many laws and policies related to forests, what are State Forestry Department major references in the case of forests conservation? How about other laws?
- 3) How to ensure all States Forestry Departments comply and observe the requirements under forest related law and policy at the federal level other than the National Forestry Act and its policy? i.e.
 - a. Town and Country Planning Act 1976
 - b. Environmental Quality Act
 - c. Environmental Impact Assessment
 - d. National Physical Plan

B. Jurisdictional issues of forest and land within states

- 1) How did the State Forestry Department reconcile the constitutional status of forest and land where both are governed by different laws and agencies?
- 2) What is SAM view on relationship between state government and federal government in the case of enforcing and monitoring the law and policy on conservation of forests in Peninsular Malaysia?

C. The significance of Malaysian Criteria & Indicator in curbing illegal logging

- 1) How far is the effectiveness of the Malaysia Criteria and Indicator (MC&I) in preventing illegal logging thus ensuring the preservation and conservation of forests in Peninsular Malaysia?

5.2.1.4 Multiple-use of Forest

A. Implementation of section 10 of the National Forestry Act by the SFD

- 1) How effective has of the introduction of multiple-use of forests been to meet the objective under the National Forestry Policy (NFP) (1992 amendment) in Peninsular Malaysia? Have the States Forestry Departments of Peninsular Malaysia applied this concept?
- 2) There is argument saying that section 10 of the NFA is not comprehensive in terms of the goods, services and attributes provided by the forests such as conservation of biological diversity, nutrient cycling and non-timber products seem to be omitted. Please comment.

B. The development of the term ‘forest’ in the forestry law and policy

- 1) What is the significance of having different forest term in the forestry law and policy?

i.e.:

- i. 1930s – productive forest and unproductive forest
- ii. 1978 – the NFP – protective, productive and amenity forest
- iii. 1992 amendment of NFP – productive, protective, amenity, research and education.

C. The role of forest conservator in the midst of development

- 1) What is the significance to State Forestry Departments and its function when forested land is cleared for the purpose of plantation and land development?
- 2) Our forests covers are still within the limit underlined by international standard; Is it possible to permit rapid development especially in the urban area and still be within the standards?

5.2.1.5 Financial, technical and information technology assistance in forest conservation

A. Financial and technical assistance in forest conservation

- 1) Does financial and technical assistance from developed countries actually save our country from the depletion of forests?
- 2) What is SAM opinion with regard to financial and technical assistance which Malaysia's receives from developed countries to curb the problem of depleting forests?

B. Information technology assistance in monitoring forest conservation

- 1) How far has the Information Technology and computerized mapping helped the government sector (federal/state level) to monitor forest cover and land use changes?

Thank you for your kind attention and support.

Appendix II (b): Questionnaire for Department of Orang Asli Development (JAKOA)

1. Total number of Orang Asli and their settlement in Peninsular Malaysia
2. Whether Orang Asli involves in assisting forestry department in the process of forest conservation in Peninsular Malaysia? If yes, to what extent is the participation of Orang Asli?
3. Whether forest conservation approach practised by Orang Asli differs within states in Peninsular Malaysia? (If any)
4. To what extent Orang Asli has been given the role or duty in ensuring sustainability of forest especially the Permanent Reserve Forest in Peninsular Malaysia?
5. Suggestion for Orang Asli to participate in the process of forest rehabilitation. (If any)

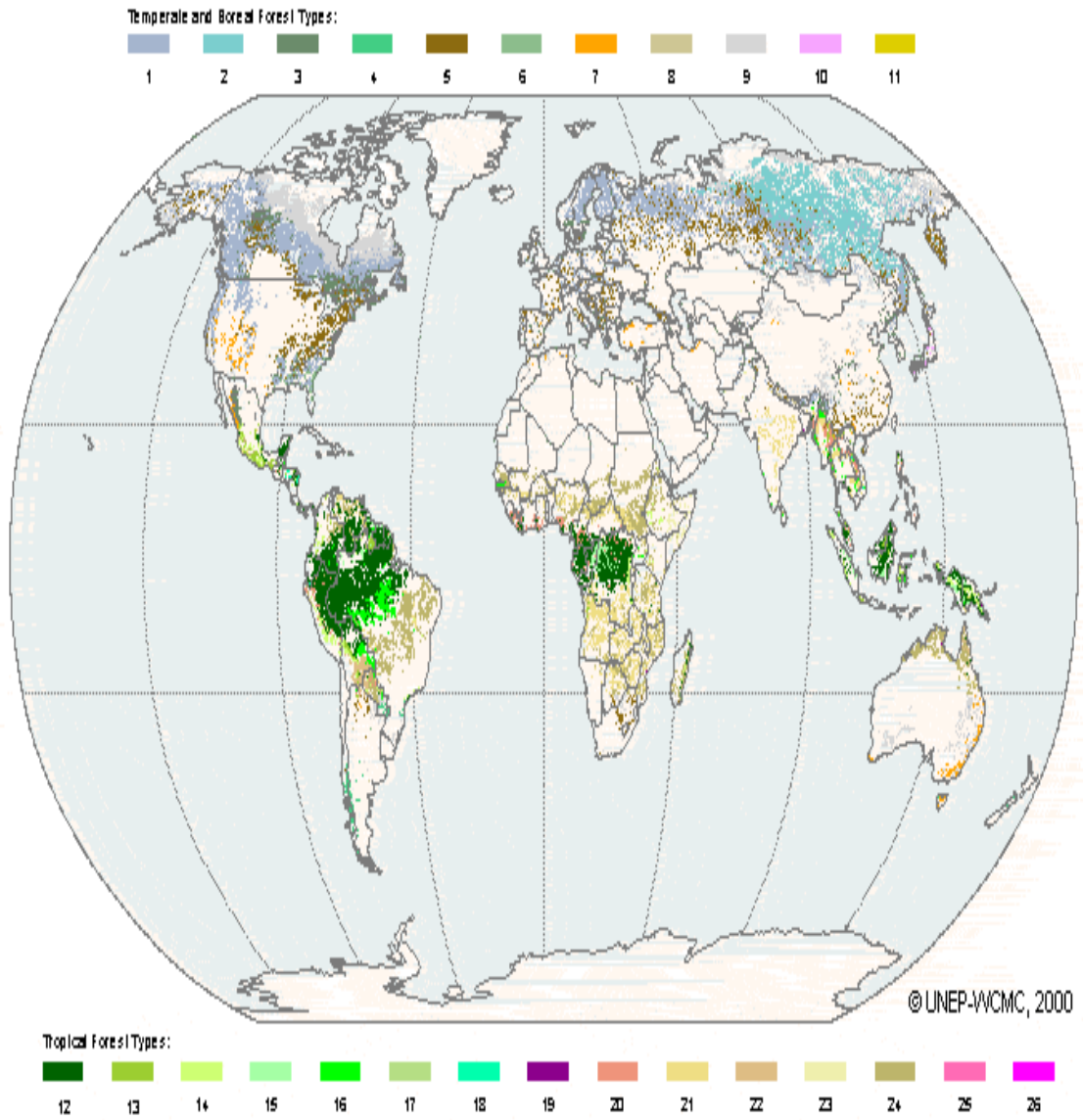
Thank you for your kind attention and support.

Appendix II (c): Questionnaire for Forestry Department (Head Quarter and states) and *Sahabat Alam Malaysia* (Friends of the Earth Malaysia-NGO) on Public Participation in Forest Conservation

1. How does state forestry department educate public regarding their rights in the case of conservation of forests?
2. How frequent did *Sahabat Alam Malaysia* conduct joint venture programme with the government sector (state or federal) with regard to conservation of forests in Peninsular Malaysia?
3. How far the public aware of the destruction of forests in Peninsular Malaysia?

Thank you for your kind attention and support.

APPENDIX III: FOREST WORLD MAP



APPENDIX IV: LIST OF CFS1 AND CFS2

CFS1 has identified nine Primary Linkages and ten Secondary Linkages as follows;

Primary Linkage (PL):

- PL 1: Tanum Forest Reserve(FR) (Greater Taman Negara) – Sg. Yu Forest Reserve (FR) (Main Range)
- PL2: Temenggor FR (Main Range) – Royal Belum State Park (Main Range)
- PL3: Lojing FR (Main Range) – Sg. Brok FR (Main Range)
- PL4: Padang Chong FR (Bintang Hijau) – Sungai Kuak FR (Main Range)
- PL5: Ulu Muda FR – Gunung Inas FR (Bintang Hijau)
- PL6: Ulu Jelai FR (Main Range) – Hulu Lemoi FR (Main Range)
- PL7: Taman Negara – Tembat FR (Greater Taman Negara)
- PL8: Kenderong FR (Bintang Hijau) – Bintang Hijau (Hulu Perak) FR (Bintang Hijau)
- PL9: Bintang Hijau Larut Matang FR – Bintang Hijau Kuala Kangsar FR

Secondary Linkage (SL):

- SL1: Lebir FR – Relai FR – Ulu Temiang FR _ Jentiang FR – Serasa FR – Gunung Stong State Perak
- SL2: Krau Willife Reserve (WR) – Benchah FR – Som FR – Yong FR
- SL3: Bintang Hijau (Hulu Perak) FR – Pepulut FR – Piah FR
- SL4: Taman Negara Forest Complex – Terengganu Coast 1
- SL5: Taman Negara Forest Complex – Terengganu Coast 2
- SL6: Taman Negara – Chiku FR
- SL7: Ulu Muda FR – Pedu FR – Chebar FR
- SL8: Ulu Muda FR – Rimba Telui FR
- SL9: Jeli FR – Sg. Sator FR – Sokortaku FR
- SL10: Chabag Tongkat FR – Ulu Sat FR – Temangan FR

CFS2 has also identified six Primary Linkages and seven Secondary Linkages as follows;

Primary Linkage (PL):

- PL1: Labis Timur FR – Lenggong Tengah FR – Mersing FR
- PL2: Lesong FR – Resak FR
- PL3: Panti FR – Ulu Sedili FR
- PL4: Sungai Marong FR – Bukit Ibam FR
- PL5: Ibam FR – Kedondong FR
- PL6: Bera FR – Ibam FR

Secondary Linkage (SL):

- SL1: Lepar FR – Berkelah FR
- SL2: Chini FR – Lepar FR
- SL3: Raja Musa - Bukit Tarek – Bukit Gading
- SL4: Mersing FR – Jemaluang FR
- SL5: Panti FR – Kuala Sedili FR
- SL6: Setul FR – Triang FR
- SL7: Angsi FR – Berembun FR

APPENDIX V- ANNUAL FOREST REPORT 2007 STATE FORESTRY DEPARTMENT PENINSULAR MALAYSIA

Num	State Item	Pahang	Perak	Kelantan	Terengganu	Johor	Kedah	Selangor	Negeri Sembilan	Melaka	Pulau Pinang	Perlis
1	Population (mil) 2001*	1.48	2.31	1.56	1.06	3.24	1.92	4.96	0.98	0.73	1.52	0.23
2	Per Capita Gross Domestic Product (%) ++	5.1	5.2	4.9	3.5	6.7	6.4	5.8	4.9	5.9	6.5	4.3
3	Land Area (ha)	3,596,585	2,102,122	1,493,181	1,295,566	1,898,629	942,600	791,084	664,591	165,104	103,150	80,302
4	Forested Land (ha)	1,981,185	1,050,225	886,767	656,325	490,209	345,382	248,289	158,081	5,307	7,809	11,555
5	Non-forested Land (ha)	1,615,400	1,051,897	606,414	639,241	1,408,420	597,218	542,795	506,510	159,797	95,341	68,747
6	Forested Resources											
	a. Permanent Reserved Forest (ha)	1,484,099	884,205	629,687	545,818	391,499	342,613	241,568	154,185	5,079	6,908	10,718
	b. Forest Plantations **(ha)	24,043	4,818	11,248	3,860	43,859	2,720	11,381	1,944	35	-	633
	c. State Land (ha)	165,127	41,107	148,297	33,000	49,279	2,769	-	3,896	228	519	769
	d. Wildlife Reserve (ha)	331,959	124,913	108,783	77,507	49,431	-	6,271	-	-	1,192	68
	e. Annual Logging Coupe (for Permanent Reserved Forest) *** (ha)	8,330	7,770	6,590	5,230	2,250	2,340	1,985	2,460	-	-	-
	f. Area opened for logging + (ha)	21,579	14,007	28,578	11,895	10,930	4,419	3,170	8,746	275	-	-
	g. Production											
	• Logs (m ³)	1,136,901	755,638	1,442,811	403,786	171,047	178,092	37,847	92,607	1,573	-	-
	• Other Forest Products (RM)	1,177,302	1,583,399	40,344	440,103	743,128	40,233	10,862,868	1,209,504	95,658	35,181	1,915,066

APPENDIX VI- ANNUAL FOREST REPORT 2006 STATE FORESTRY DEPARTMENT PENINSULAR MALAYSIA

Num	State Item	Pahang	Perak	Kelantan	Terengganu	Johor	Kedah	Selangor	Negeri Sembilan	Melaka	Pulau Pinang	Perlis
1	Population (mil) 2001*	1.35	2.16	1.42	0.94	2.89	1.74	4.39	0.90	0.67	1.39	0.21
2	Per Capita Gross Domestic Product (RM) ++	12,186	14,910	7,186	27,951	17,635	10,330	22,822	16,675	18,802	26,575	11,525
3	Land Area (ha)	3,596,585	2,102,122	1,493,181	1,295,566	1,898,629	942,600	816,969	664,591	165,104	103,150	80,302
4	Forested Land (ha)	2,025,204	1,050,225	894,591	656,325	508,495	345,382	245,201	162,024	6,370	7,809	11,555
5	Non-forested Land (ha)	1,571,381	1,051,897	598,590	639,241	1,390,134	597,218	571,768	502,567	158,734	95,341	68,747
6	Forested Resources											
	h. Permanent Reserved Forest (ha)	1,519,501	884,205	629,687	545,818	391,499	342,613	245,201	158,128	5,170	5,434	10,718
	i. Forest Plantations ** (ha)	24,043	4,798	-	3,860	35,223	2,652	10,130	2,090	35	1,183	633
	j. State Land (ha)	105,963	41,107	156,121	33,000	67,565	2,769	-	3,896	1,200	1,192	769
	k. Wildlife Reserve (ha)	399,740	124,913	108,783	77,507	49,431	-	-	-	-	-	68
	l. Annual Logging Coupe (for Permanent Reserved Forest) *** (ha)	8,330	7,770	6,590	5,230	2,250	2,340	1,985	2,460	-	-	-
	m. Area opened for logging + (ha)	27,950	13,910	31,601	9,490	17,174	3,265	5,292	3,188	205	-	-
	n. Production											
	• Logs (m ³)	1,782,523	833,802	1,066,479	493,864	213,816	179,453	48,142	73,860	1,508	-	-
	• Other Forest Products (RM)	1,694,391	77,477	59,900	527,724	662,074	249,377	9,945,227	-	163,946	-	1,915,066

Note:

- * - Source: Department of Statistics, Malaysia
- ** - Includes Compensatory Forest Plantation, Pine, Teak and Rubber Plantations
- *** - As stipulated by the National Forestry Council
- + - Includes Permanent Reserved Forest, Stateland and Alienated Land
- ++ - Source – Economic Planning Unit, JPM