Journal of Sustainability Science and Management
Volume 8 *Number* 2, December 2013: 276-289
ISSN: 1823-8556

THE LAWS AND POLICIES FOR THE SUSTAINABLE MANAGEMENT OF BIODIVERSITY IN MALAYSIA

WAN IZATUL ASMA WAN TALAAT[1*], NORHAYATI MOHD TAHIR[1] MOHD HAZMI MOHD RUSLI[1,2] AND MOHD LOKMAN HUSAIN[1]

[1]*Institute of Oceanography, Universiti Malaysia Terengganu, 21030 Kuala Terengganu, Terengganu.* [2]*International Islamic University Malaysia, P.O. Box 10, 50728 Kuala Lumpur.*

**Corresponding author: wia@umt.edu.my*

Abstract: Biodiversity conservation and management in a sustainable manner is crucial for Malaysia and having sufficient laws and policy providing for such is mandatory. As a Contracting Party to the Convention on Biological Diversity (CBD), Malaysia has undertaken to abide by what has been stipulated by the CBD and to endeavour to provide legislative, administrative and policy measures towards achieving the objectives and expectation of the CBD. Among the first measures taken by Malaysia was the conduct of a country survey on biological diversity cumulating in the "Assessment of Biological Diversity in Malaysia" in 1997, which was immediately followed by the launching of the National Policy on Biological Diversity on 16th July 1998. Malaysia has also taken the steps to provide legislative implementation of the broad objectives of the Policy by putting in place three specific legislationsnamely the Biosafety Act 2007 (Act 678), the Access to Genetic Resources Act and the National Biodiversity Council Act, both of which are still in the bill stage. This paper aims to provide an overview of the existing laws and policy in Malaysia that subscribe to the effort of sustainable management of natural resources and determine the sufficiency of these laws and policy in providing for biodiversity conservation and management in Malaysia as sanctioned by the CBD. This research methodology employed aqualitative study carried out via content analysis on the data collected from the primary sources namely the National Policy of Biological Diversity (NPB) as well as the numerous federal legislations. The research tool used for data analysis is the Rule of Statutory Interpretation, which is the same tool used by the judges. The findings reveal that the Vision Statement and the Policy Statement of the NPB undeniably emphasize Malaysia's commitment towards the conservation and sustainable use of her biological diversity heritage for the sustainable progress of the nation. However, it is also found that the current legislative framework creates some restrictions, thereby causing some deficiencies for an effective conservation and management of biological diversity in the country.

KEYWORDS: Biodiversity, sustainable management, laws, policies, Malaysia.

Introduction

The Convention on Biodiversity (CBD) entered into force in December 1993 with the first meeting of the Conference of the Parties (COP) in November 1994. The most fundamental objective of CBD is the provision of a broad universally accepted regime in the realm of genetic resources. Today it stands as the most important, comprehensive and holistic international agreement addressing biodiversity issues. It sets out a comprehensive approach to the conservation of biological resources and diversity, sustainable use of natural resources and the fair equitable sharing of benefits derived from the use of such resources.

The essence of the Convention appears to be the need to achieve a balance between the full deployment of the potential of biotechnology and the need in so doing to develop appropriate legislative, administrative and policy measures to enhance the safety of biotechnology in the context of the Convention's overall goal of reducing all potential threats to biological diversity, environment and human health. The

essential components of CBD fundamental to achieving the Conventions objectives and expectations can be identified under five core fundamentals, namely:

(a) Recognition of the sovereign rights of States to their natural resources and the authority to determine access to genetic resources according to national legislation.

(b) Obligation of each Contracting Party to endeavor to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties and must not impose restrictions inconsistent with the objectives of the Convention. Access to genetic resources shall be on the basis of prior informed consent (PIC) of the party providing such resources and on mutually agreed terms (MAT).

(c) Obligations of each Contracting Party to facilitate access for and transfer to other Contracting Parties of technologies relevant to the conservation and sustainable use of biological diversity.

(d) Obligation of each Contracting Party to provide for the active participation in biotechnological research and to promote priority access on a fair and equitable basis to the result and benefits of such research to Contracting Parties providing the genetic resources for such research.

(e) Obligation to consider the need for a protocol, including advance informed agreement (AIA), for the safe transfer, handling and use of any living modified organism produced by biotechnology that may have adverse effect on conservation and sustainable use of biological diversity.

As a state party, Malaysia is obligated to develop national strategies, plans and programmes by taking legislative, administrative and policy measures for the conservation and sustainable use of biological resources and diversity. Although CBD is silent on the meaning of "conservation", it can be generally understood as preventing a species from loss, waste or change (Ansari, 2008). For a country like Malaysia, which is one of the 12 mega-biodiversity countries of the world, an integrated approach to conservation is necessary to develop cornerstone biodiversity conservation.

Among the first measures taken by Malaysia was the conduct of a country survey on biological diversity cumulating in the "Assessment of Biological Diversity in Malaysia" in 1997, which was almost immediately followed by the launching of the National Policy on Biological Diversity. To provide legislative implementation of the broad objectives of the Policy, three specific legislations are to be put in place namely the Biosafety Act 2007 (Act 678), the Access to Genetic Resources Act and the National Biodiversity Council Act (both of which are still in the bill stage).

This paper provides an overview of the existing Malaysian laws and policy for the sustainable management of natural resources. This paper also discusses the sufficiency of these laws and to sustainably manage and conserve the biological resources as sanctioned by the CBD. Consequentially, this paper also proposes for Malaysia to reform the existing laws by taking advantage of the provisions in the Federal Constitution that enable such a broad comprehensive federal law on biodiversity to be enacted, which is necessary to meet the many demands of the CBD as well as the Cartagena Protocol on Biosafety.

Materials and Methods

This study is a qualitative study carried out via content analysis on the data collected from the primary sources namely the National Policy of Biological Diversity as well as the numerous federal legislations that relate to the conservation and management of biodiversity as follows:

(a) Biosafety Act 2007

(b) National Forestry Act 1982

(c) Malaysian Forestry Research and Development Board 1985

(d) Wood-based Industries (State Legislatures Competency) Act 1984

(e) National Parks Act 1980

(f) Protection of Wild Life Act 1972

(g) Environmental Quality Act 1974

(h) National Land Code 1965

(i) Land Conservation Act 1956 (revised 1991).

(j) Pesticides Act 1974

(k) Plant Quarantine Act 1976

(l) Waters Act 1920 (Revised 1989)

(m) Fisheries Act 1985

(n) Exclusive Economic Zone Act 1984

(o) Continental Shelf Act 1966

(p) Customs (Prohibition of Exports Amendment No.4) Order 1993

(q) Aboriginal Peoples Act 1954

(r) Protection of New Plant Varieties Act 2004

(s) Abattoirs (Privatisation) Act 1993

The legal tool used for analysis is the Rule of Statutory Interpretation, which is the same tool used by the judges: once the Parliament has passed a statute, the duty to interpret such legislation thus lies with the judges. The role of a judge in interpreting statutes is twofold i.e. he has to firstly, ascertain the meaning of the statutory provision and secondly, accommodate that particular statute to existing body of law [the common law and statute law], which eventually become a precedent. To facilitate the interpretation of these statutes, the Interpretation Acts, which contains definitions for commonly used words and terms, have been passed. In addition to these Acts, the courts have to resort to some other techniques of interpretation, which have been evolved over the years. The rules are as follows:

(i) The Literal Rule: Under this dominant rule, the word or phrase in question is given its literal or ordinary grammatical meaning.

(ii) The Golden Rule: This rule involves the actual modification of the language in a statute with the purpose to overcome the absurdity appears due to the defect in such Act.

(iii) The Mischief Rule: If the word or phrases of the statute, in the light of the whole statute, are not plain and unambiguous, the court will look at the "mischief" that was intended by the legislature to remedy it.

(iv) The Purpose Rule: Under this rule, the court will look into the overall intention of the legislature from reading the statute as a whole.

The National Policy on Sustainable Biodiversity Management

The Malaysian National Policy on Biological Diversity was officially declared on April 16 1998 and its declared vision is to transform Malaysia into a world center of excellence in conservation, research and utilization of tropical biological diversity by the year 2020 while in its Policy Statement, it is stated that this National Policy is aimed to generally conserve Malaysia's biological diversity and to ensure that its components are utilized in a sustainable manner for the continued progress and socio-economic development of the nation. Both the vision statement and the Policy statement undeniably emphasize Malaysia's commitment towards the conservation and sustainable use of her biological diversity heritage for the sustainable progress of the nation. However, the direction of legislative, administrative and other measures effectuating both the vision and policy statements are manifested in the forms of 11 principles statements and six heads of objectives.

Four of the 11statements of principles warrant mention here namely:

(a) Principle (VI) - the duty Government to formulate and implement the policy framework for sustainable management and utilization of biological diversity in close cooperation with scientists, the business community and the public;

(b) Principle (VII) - the role of local communities in the conservation, management and utilization of biological diversity must be recognized and their rightful share of benefits should be ensured;

(c) Principle (IX) - the interdependence of nations on biological diversity and in the utilization of its components for the well being of mankind is recognized. International cooperation and collaboration is vital for fair and equitable sharing of

biological resources, as well as access to and transfer of relevant technology"; and

(d) Principle (XI) -the principles and practice of biosafety should be adhered to in the utilization of biological diversity, including the development of biotechnology.

Among the six heads of objectives, three heads merit further deliberation namely:

(a) Objective (i) - to optimize economic benefits from sustainable utilization of the components of biological diversity;

(b) Objective (iv) - to ensure preservation of the unique biological heritage of the nation for the benefit of present and future generations; and

(c) Objective (vi) -to emphasize biosafety considerations in the development and application of biotechnology.

The government's duty towards sustainable management and utilization of biological diversity is outlined by two basic doctrines under the CBD i.e.:

Public Trust Doctrine

The Public Trust doctrine spells out the Governments' Duty towards Sustainable Management and Utilization of Biological Diversity. Clearly, Principle (VI) categorically declares the duty of the government in a manner that can achieve sustainable development of biological diversity in Malaysia. In this regard the government is mandated to work in close cooperation with scientist, the business community and the public. This duty if read together with Objective (iv), that is, preserving the unique biological diversity for the benefit of present and future generations must necessarily imply the existence of a broader duty in the nature of public trust. This public trust doctrine, though never expressly stated in any of the many natural resource legislations can and should be judicially recognized as an implied duty imposed on the government by virtue of the combined operations of Principle (VI) and Objectives (iv) of the Policy.

Traditional Knowledge and Rights of Indigenous Communities

Quite related to the principle of sustainable management and use of biological diversity is the need to recognize, protect and enforce the rights of indigenous communities to have continued access to biological resources not only for the continued sustenance of their culture but also to protect their knowledge, acquired over thousands of years of experimentation and experience, about the uses biological resources can be put to, particularly in medicinal and pharmaceutical preparations. This knowledge now popularly termed as traditional knowledge (TK) is required by the CBD to be duly protected.

Principle (VII) takes cognizance of this but in a rather oblique way. There is no specific mention of "TK" among the 15 strategies for effective management of biological diversity outlined in the Policy, none either directly or indirectly refers to TK. Even Strategy 9,which is to undertake "review and update existing legislation" to reflect biological diversity needs, is silent on TK. The Action Plan proposed for Strategy 1 calls for the establishment of an inventory of TK on the use of species and genetic diversity.Similarly, the Action Plan for Strategy 9 calls for identification of areas where new legislation or enhancement of present legislations is needed, among others, for "intellectual property and other ownership rights".

Protection of traditional knowledge requires more than just a policy declaration. It requires legislative recognition which shall form the basis for the establishment of the features necessary for its protection such as National Data Base, Registration of Ownership, Dispute Resolution Mechanism to resolve conflicting claims, procedures for participation in decision making, especially with regard to Access and Benefit Sharing. The absence of very explicit strategic and action commitment on TK in the Policy is quite perplexing because Malaysia was one of the active initiators of the Charter of Indigenous Tribal People of the Tropical Forest 1992, which was signed in Kuala Lumpur and the Sabah Declaration 1995, both of which advocated the strong protection of indigenous rights.

The rather inadequate provisions in the Policy regarding the recognition and protection of traditional knowledge in further compounded by the lack of real proprietary interest in land. It appears that for the indigenous people of Peninsular Malaysia obtaining tenure has been extremely tenuous. As pointed out by Rachagan (1981), the special privileges accorded to the Malays of Peninsular Malaysia and the natives of Sabah and Sarawak under the doctrine of affirmative action in Article 153 and 161A of the Federal Constitution do not extend to the *Orang Asli*, which is the generic term used for indigenous people of the Peninsular Malaysia that are generally divided into three tribal groups namely the Semangs (Negritos), Senois and Proto Malays (Nicholas, 2002). The only mechanism for extending a similar affirmative action to the *Orang Asli* can be found in Article 8(5)(c) which is a mere enabling provision without being mandatory. Even the enactment of the Aboriginal People Act in 1954 (Revised in 1974) does not put the rights of the aborigines beyond legislative and administrative derogation.

The unique feature of Malaysian federal legislative arrangement is that forests are separate from land, though physically they are the same terrestrial resources. This artificial distinction can have significant impact on the rights of indigenous people. Absence of proprietary tenurial right over their 'forested land' can mean that these lands may subsequently end up becoming part of a reserved forest under the relevant forest laws of the states and the rights of indigenous people to their forested lands will only subsist as a common law right of usufruct, i.e. their right is the right to "live from the produce of the land itself but not to the land itself".

It is obvious that recognizing, protecting and ensuring the rightful place of traditional knowledge within the broader framework of sustainable use and conservation of biological diversity requires a total review of existing legislation pertaining to the rights of indigenous people beyond formal declarations. After all, as succinctly put by Etkin (2008)…"*More recently these communities (indigenous communities) have come to be appreciated as repositories of not only of knowledge but also of biological diversity itself*". One such instance where traditional knowledge of the indigenous people has been acknowledged by the government is the announcement of plans by the State of Sarawak to document ethnic knowledge from among the ethnic communities in the state in order to preserve them and to explore the potential for commercialization (The Star, 2008).

The Malaysian Laws on Biodiversity Management

As proclaimed by the Secretary General of the Malaysian Ministry of Natural Resources and Environment at the International Conference on Biodiversity: Science and Governance at UNESCO Headquarters, Paris in January 2005, an integrated approach to conservation is necessary to develop cornerstone biodiversity conservation for Malaysia, which is one of the 12 mega-biodiversity countries of the world. One of the most important approaches is to have adequate laws for that purpose. At present, there is not a single legislation in Malaysia that comprehensively provides for biodiversity conservation and management, where most of the existing legislations are sector-based (FRIM, 2008). For instance, the Protection of Wildlife Act 1972 deals specifically with protection of wild life, Fisheries Act 1985 deals mainly with the conservation and management of fisheries resources and National Forestry Act 1982 deals with the utilisation and management of forests. Some of these piecemeal laws, whether at federal or state levels, were passed without specific considerations on the issues of biodiversity conservation and management. Most of these laws were passed years before biological diversity began to take center stage and when awareness of the pertinence of preserving the global ecosystems, especially amongst the developing countries like Malaysia, was still very low.

In order to implement the obligations under CBD, Malaysia may face difficulty in formulating legislative as well as executive measures. Under the principle of federalism, Parliament's powers to make laws are subject to the distribution of powers & jurisdiction between federal & the States as enshrined in the Federal Constitution.

Under Article 73, Parliament may make laws for the whole or any part of the Federation as well laws having effect outside as well as within the Federation while the State Legislature may make laws for the whole or any part of that particular State only. Thus, in order to realise the covenants under CBD, which was signed by the Federal Government and not by the individual states in Malaysia, it is Parliament, which is obliged to make laws in line with CBD. However, Article 74, which provides that, Parliament may only make laws with respect of any of the matters in the Ninth Schedule that are under the Federal List (First List) and Concurrent List (Third List). The State Legislatures, on the other hand, may make laws with respect of any of the matters in the Ninth Schedule under the State List (Second List), which covers land matters as well as most other natural resources. Article 75 provides that in the event of inconsistency between a Federal and a State law, the Federal law shall prevail and the State law, only to the extent of inconsistency, shall be void.

However, despite the clear distribution of legislative powers between the Parliament and State Legislatures, there are still exceptional instances where the Parliament can still legislate on state matters. These exceptions will ensure that the Federal Government, can be empowered to honour their covenants under international treaties or convention such as CBD. These exceptions, as provided under Article 76 of the Federal Constitution, empower the Parliament to legislate for States in certain cases and when it involves the obligation under CBD, these exceptions are especially useful when most of the natural resources are within the States' jurisdiction. Clause 1 of Article 76 allows Parliament to make laws under State List under three instances:

(a) For the purpose of implementing firstly any treaty, agreement or convention between the Federation and any other country, which includes CBD and secondly, any decision of an international organisation of which the Federation is a member.

(b) For the purpose of promoting uniformity of the laws of two or more States.

(c) If so requested by the State Legislature Assembly of any state.

If a law is enacted by the Parliament for paragraph (a), the Federal Government must first consult the government of the state concerned if it relates to Islamic Law, Malay Customs and any matters of native law or custom in Sabah & Sarawak (Clause 2). Subject to Clause (4), any law made pursuant to paragraph (b) or (c) above cannot be enforced in any state unless adopted by a law made by the State Legislature Assembly of that state. After such adoption, the federal law shall become a state law and may accordingly be amended or repealed by a law made by the State Legislature Assembly (Clause 3). Examples are the National Forestry Act 1982 and Fisheries Act 1985, which are both enacted under Article 76(1)(b).

The uniformity of laws as targeted under Clause 1(b), however, may not happen easily now. This is because before the 12th General Election on 8th March 2008, almost all the states were controlled by BarisanNasional (National Front), which was also the ruling Federal Government. Therefore, party allegiance would ensure that the states would not amend any of the Federal Laws adopted. However, the position at present may be different when a few states in the Peninsular Malaysia are now ruled by the Opposition. Hence, there are possibilities that there will be amendments to Federal laws that have been adopted by the states and uniformity of laws throughout the whole Federation may no longer be present. Nonetheless, the Federal Government can still overcome the problem by using the excuse of Article 76(1) (a), where only the Federal Government can pass law to honour an international treaty and under such situation, the state government cannot amend the law. A law made under Article 76(1)(b) will come into force in all States upon its enactment (Ansari, 2004).

Clause 4 of Article 76 further provides that for purpose only of ensuring uniformity of law and policy throughout the whole Federation, Parliament may make laws with respect to:

(a) Land tenure.

(b) Relations of landlord& tenant.

(c) Registration of titles & deeds relating to land, transfer of land, mortgages, leases and charges in respect of land.

(d) Easements & other rights & interests in land.

(e) Compulsory acquisition of land.

(f) Rating & valuation of land.

(g) Local government.

Clauses 1(b) & 3 of Article 76 do not apply to these laws. One good example is the National Land Code 1965, which remains a Federal law and applies throughout the Peninsular Malaysia without having to be adopted by each State Legislature.

Thereare basically 18 federal legislations that relate to the conservation and management of biological diversity, examined in this study, the first of which was the Biosafety Act 2007. Malaysia's ratification of the Cartagena Protocol mandated the performance of several obligations, one of which was the enactment of domestic law along the lines of the Protocol to dial with the safety aspect of transfer, handling and use of LMOs. Malaysia accordingly enacted the Biosafety Act in 2007, which concerns itself with the regulation of living modified organisms and the embellishment of the National Biosafety Board in regulating living modified organisms. There are three fundamental parts of the Act namely Part III, IV and V as they form 'substantive interpretation' of biosafety measures as mandated by the Protocol and as cautioned by the Precautionary Principle.When it was first legislated, the Biosafety Act received mixed reactions. There are those who view the Act as being too lenient, almost "throwing precaution to the wind" as can be seen in Kwan's view (2007), while others blame the Act for being too prohibited and not business friendly. In most legislations dealing with standards of safety, it is quite common that views tend to oscillate between two extremes. Be that as it may, for the non-partisan bystanders but very much concerned with the issue of safety of LMOs a detailed discussion of several important provisions of the Act can be useful.

Part III deals with the difficult question of approval for release and import. Basically, this Part embraces the spirit of the Advance Informed Agreement (AIA) regime of the Protocol. Part IV is dedicated to notification for export, contained use and importation of living modified organism for contained use activities while Part V covers the risk assessment, risk management and emergency response plan. Section 35 of the Biosafety Act embraces Article 10(6) of the Cartagena Protocol, alas not in its entirety where there are significant divergences. While the Preamble to the Biosafety Actseems to accord with most formulation of the Precautionary Principle, which isa principle used in environmental law that according to Adler (2008) as "appeals to the common sense idea that it is better to be safe than sorry", and may comply in many important aspects with the four dimension analysis proposed by Sandin (1999), Section 35 is silent on the command dimensions (Shaik and Wan Izatul, 2009). The provision fails to command the Board or the Minister to take appropriate action or to make appropriate decision to protect against the potential adverse effects, which is fundamental in the dimensions of the principle of precautionary Principle. Fundamentally, the Precautionary Principle in section 35 of the Act cannot truly be termed as precautionary. This inconsistent formulation of the Biosafety Act, although to some may look as an attempt to encourage a decision making process that takes into account of the heavy social and economic cost to those whose livelihood may be adversely affected by the intended precautionary measures, may inadvertently result in its handicap.

Forests play an important role in the maintenance of climatic and environmental stability, conservation of invaluable biodiversity as well as supply of clean water besides timber for downstream industries (Chan, 2002; Ansari, 2008). The role played by forests is pertinent in the socio-economic and industrial development of a country. Forest biodiversity takes the centre-stage (World Bank, 2002) to the struggle of sustainable conservation of biological diversity embedded under CBD due to the following reasons: (i) Forests may be the richest of all terrestrial ecosystems; (ii) It provides important sources of food, medicines, energy and building materials; (iii) It sustains the livelihoods of

and provides jobs for hundreds of millions of people worldwide; (iv) It offers aesthetic and cultural values; and (v) It contributes to a sense of cultural identity and provides spiritual enrichment in many indigenous and forest-dependent communities (Forest Facts, 2009). Tropical rainforest, as we have in Malaysia, is one of the most complex ecosystems in the world (MTC, 2008). Amongst all kinds of ecosystems, tropical rainforests ecosystem and wetland and mangrove ecosystem, both of which constitute the Malaysian forests, are the most species-rich (Ansari, 2008).The National Forestry Act 1982, stands as one of the principal legislations in the conservation and management of biodiversity in this country since forests play a major role in regulating the climatic and physical conditions of the country, safeguarding water supplies, ensuring environmental stability as well as minimising damage to agricultural lands. Since forests fall under the jurisdiction of States under the State Listas provided under the Second Schedule of Article 74 Federal Constitution, the National Forestry Act was formulated to uniformise and update the various state forests legislations, which were considered as deficient and weak in areas of forest conservation and management planning and in forest renewal operations, which are vital for sustainable forest management (Forestry, 2008).

This Act was enacted under Article 76(1) (b) that is to provide uniformity in the States of Malaysia by providing for the administration, management and conservation of forestry and forestry development throughout Malaysia (Ansari, 2004). This Act provides for the constitution and classification of Permanent Reserved Forests as well as excision therefrom and for Forests Management and Development, which among others deals with granting of licence for logging of timber. Section 16 allows timber rights in both Permanent Forest Estates and State land Forests to be transferred by the State Authority in any of the following three ways namely tendering, negotiation or other processes such as grant and status.

In addition to the National Forestry Act 1984, the Malaysian Forestry Research and Development Board 1985 was subsequently enacted for the purpose of establishing a forest research and development institute, in the name of Forest Research Institute Malaysia (FRIM) and also for the administration of research fund in forestry. Amongst the main functions of FRIM is to conduct research into "forest development", which involves the management and development policies as well as activities for all natural and man-made forests, based on sound ecological and economic principles. In doing so, FRIM is also subjected to oversee the achievement of the expressed purposes not only of the production of forest produce but more importantly of the protection of the environment. Apart from this Act, another Federal law relating to forest is the Wood-based Industries (State Legislatures Competency) Act 1984, which confers authority on the State Legislatures to pass laws with respect to the establishment and operation of wood-based industries in their respective states.

The National Parks Act 1980 provides for the establishment and control of National Parks in Malaysia. Although all National Parks in Malaysia are located in the States, this Federal legislation applies throughout Malaysia except in the states of Sabah and Sarawak. This Act is also not applicable to the State Parks of Kelantan, Pahang and Terengganu, which collectively constitute the *Taman Negara* as described in the Schedule to the Taman Negara (Kelantan) Enactment 1938 and First Schedules to the Taman Negara (Pahang) Enactment 1939 and Taman Negara (Terengganu) Enactment 1958. The State of Perlis has its own State Parks enacted under state law. Under Section 4, National Parks are established to preserve and protect the wild life as well as plant life in the designated areas. Apart from that, the conservation of objects of geological, archaeological, historical and ethnological and other scientific and scenic interest is also aimed to be achieved through the establishment of these National Parks.

The Protection of Wild Life Act 1972 was passed to consolidate laws relating to the protection of wildlife and to further make laws for the purpose of protecting wildlife in Peninsular Malaysia. Section 29 prohibits certain activities relating to wild life without

licence, permit or special permit. Under Section 3, a "licensed hunter" is someone who is granted a license under this act to shoot, kill or take a protected wild animal or wild bird excluding immature wild animal or immature wild bird. "Protected wild animal" are listed under Schedule Two and Schedule Five. "Wild bird" is listed under Schedule Four. However, no license can be granted to shoot, kill, take or hold in possession "totally protected wild animal" or "totally protected wild bird" as listed under Schedule One and Schedule Three respectively. Unlicensed persons are prohibited from the following activities:

(a) Shooting, killing or taking any protected wild animal or wild bird or the nest or egg;

(b) Carrying on the business of a dealer of wild animal or wild bird;

(c) Carrying on the business of a taxidermist;

(d) Housing, confining or breeding a protected wild animal or wild bird other than as a dealer or a taxidermist;

(e) Importing or exporting from Peninsular Malaysia any protected wild animal or wild bird or part thereof;

(f) Keeping a trophy of any protected wild animal or wild bird (in any form of skins or feathers of wild animal or wild bird, stuffed or mounted wild animal or wild bird or any horn, tusk, tooth, nail or scale); and

(g) Entering a wild life sanctuary or a wild life reserve.

Under this Act, a State Ruler or Yang di-PertuaNegeri is allowed to declare any state land to be a wild life reserve or a wild life sanctuary. Entry to these wild life reserves or wild life sanctuaries is prohibited unless a written permit is first obtained from the Director for Wild Life and national Parks. Even then, the law is very clear that those capable to apply for the permit must either be a licensed hunter or someone who satisfies the Director in writing that his entry into the wild life reserve or wild life sanctuary is for any of the purposes of art, science and recreation. For the former, his entry is limited only to a wild life reserve because in a wild life sanctuary, the acts of shooting, killing or taking any animal or bird and taking or disturbing the nest of egg of any animal or bird are totally prohibited.

Another principal federal legislation for the conservation and management of biodiversity is the Environmental Quality Act 1974, which mainlyrelates to the prevention, abatement and control of environmental pollution as well as the advancement of environment. Part IV of the Act deals specifically with prohibition and control of pollution, which include restrictions on pollution of the atmosphere (Section 22), the soil (Section 24) and inland waters (Section 25). This Act also prohibits the discharge of oil and wastes into Malaysian waters (Section 27) and open burning (Section 29A). The amendment to this Act in 1985 to include Environmental Impact Assessment (EIA) was an illustration of Malaysia's commitment to conserve its biodiversity through protecting the environment. This amendment prescribes for activities that involve forest lands including:

(a) Land development schemes converting an area of 500 hectares or more of forest land into a different land use;

(b) Drainage of wetland, wildlife habitat or virgin forest covering an area of 100 hectares or more;

(c) Land-based aquaculture projects accompanied by clearing of mangrove forests covering an area of 50 hectares or more;

(d) Conversion of hill forest land to other land use covering an area of 50 hectares or more;

(e) Logging or conversion of forest land to other land-use within the catchment area or reservoirs used for municipal water supply, irrigation or hydro-power generation or areas adjacent to state and national parks, and national marine parks;

(f) Logging covering an area of 500 hectares or more;

(g) Conversion of mangrove forests for industrial, housing or agricultural use covering an area of 50 hectares or more;

(h) Clearing of mangrove forests on islands adjacent to national marine parks; and

(i) Other activities, which may affect forest, such as coastal reclamation, and hydro-power projects.

Another important federal legislations relating to the conservation and management of biodiversity is the Fisheries Act 1985. Fishing is one of the main sources of economic growth in Malaysia relying mostly on the natural resources either from the sea or rivers and also aquaculture. The Fisheries Act 1985 deals with fisheries including the conservation, management and development of maritime and estuarine fishing and fisheries in Malaysian fisheries waters as well as to turtles and riverine fishing in Malaysia. This Act applies throughout Malaysia since fisheries fall under the Federal List and for Sabah and Sarawak, fisheries fall under the Concurrent List as provided under Article 74(1). However, since turtles and riverine fishing falls under the State List, the provision under Article 76(1)(b) applies where Parliament may make laws for the purpose of promoting uniformity of the laws or two or more States. Section 26 and 25(1)(b) of the Fisheries Act prohibit the use of explosives, poisons or pollutants, or any electrified apparatus for fishing by imposing a fine not exceeding RM50,000/= on the violators. In the realisation that marine fisheries resources in Malaysia are depleting and that the importance of coral reefs areas as critical habitats zone, the Fisheries (Prohibited Area) Regulations was enacted under the then Fisheries Act 1963 and PulauRedang, Terengganu was declared as the first Fisheries Prohibited Area (FPA) (NRE, 2008). Waters stretching 3 km from shore and surroundings 22 islands in the states of Kedah, Terengganu, Pahang and Johor were declared as FPA under the then Fisheries Act of 1963.When the present Fisheries Act was enacted in 1985 to replace the Fisheries Act 1963, another three islands on the coast of Sarawak were declared as FPA.

Part IX of the Fisheries Act 1985 provides for the establishment of Marine Parks in Malaysia. The main purpose of establishing Marine Parks in the country is to protect, conserve and manage in perpetuity the significant representatives of marine ecosystems, particularly coral reefs and their associated flora and fauna. Marine parks or marine reserves may be gazetted to provide special protection to the aquatic flora and fauna and to protect, preserve and manage the natural breeding grounds and habitat of aquatic life particularly of the endangered species. Other objectives are to allow for natural regeneration of depleting aquatic life, to promote scientific research, to preserve and enhance the pristine state and productivity and most importantly, to regulate recreational and other activities in such areas in order to avoid irreversible damage to its environment. The First Schedule of the Marine Parks Malaysia Order 1994 defines the limit of any area or part of an area established as a marine park to be at a distance of two nautical miles seaward from the outermost points of the islands specified. This Order firmly entrenched 40 islands as protected areas, which consist of the following:

(a) Pulau Redang Archipelago and Pulau Perhentian Archipelago off the Terengganu waters;

(b) Pulau Payar Archipelago, off the Kedah waters;

(c) Pulau Tioman Archipelago, off the Pahang waters;

(d) PulauTinggi Archipelago, off the Johor; and

(e) The Federal Territory of Labuan Archipelago.

Other maritime-related legislations concerning biodiversity conservation are the Exclusive Economic Zone Act 1984 and the Continental Shelf Act 1966. The Exclusive Economic Zone (EEZ) Act 1984 regulates the activities in the Malaysian exclusive economic zone and certain parts on the continental shelf. The Malaysian Government has sovereign rights to explore and exploit, conserve and manage the natural resources in the EEZ. Natural resources are not specifically defined under this Act while under the Continental Shelf Act 1966, natural resources are specifically defined to exclude fish and turtle.

The silence under the EEZ Act 1984 may raise a question whether natural resources under this Act also includes fisheries resources and

turtles. The rights to economically explore and exploit the exclusive economic zone include activities such as production of renewable energy from the water, current and winds whilst the rights to conserve and manage the natural resources, both living and non living, extend to the sea-bed and subsoil as well as superjacent water. Malaysia also has jurisdiction with regard to the establishment and use of artificial islands, installations and structures, which may include oil rigs, marine scientific research and the protection and preservation of the marine environment in the exclusive economic zone (Section 4(b)). Section 5 prohibits the following activities in the EEZ, unless authorized:

(a) exploration or exploitation of any natural resources, whether living or non-living;

(b) carrying out of research, excavation or drilling operations;

(c) conducting any marine scientific research; and

(d) construction of or authorising and regulating the construction and use of any artificial island, any installation or structure for the purposes under Section 4 or for any other economic purposes or any installation or structure, which may interfere with the exercise of sovereign rights under Section 4.

Part IV provides for the protection and preservation of the marine environment by giving Malaysia the right to exploit its natural resources in the EEZ pursuant to its environmental policies and in accordance with its duties to protect and preserve the marine environment in the zone. Section 10, for instance, provides for offences in respect of discharge or escape of certain substances into the EEZ from any vessel, land-based source, installation, device or aircraft (from or through the atmosphere or by dumping) with the maximum fine imposable of RM1 million.

The Continental Shelf Act 1966 regulates the Malaysian continental shelf as well as the exploration and exploitation of its natural resources. "Continental shelf" is defined as the sea-bed or subsoil of submarine areas adjacent to the Malaysian coast but beyond the limits of the territorial waters of the States.The surface of the sea bed or subsoil must not be greater than 200 metres below the sea surface. This Act defines natural resources as the mineral and non-living resources from the sea bed and subsoil as well as living organisms belonging to sedentary species, which means organisms which are either immobile on or under the sea-bed or are unable to move at the harvestable stage. This definition clearly excludes fish and turtle, which are both covered under the Fisheries Act 1985. Mining within the continental shelf is expressly prohibited except under the Petroleum Mining Act 1966. Under Section 4, licence must first be granted before a person can explore, prospect or bore for or carry on operations to get minerals (other than petroleum) in the sea-bed or subsoil of the continental shelf.

The Waters Act 1920 (Revised 1989), which provides for the control of rivers and streams certain States in Peninsular Malaysia, is another important legislation relating to natural resources. The importance of water is irrefutable especially when it comes to the issues of biodiversity conservation and management. This Act expressly prohibits pollution of rivers in these States by providing that no person is allowed, except under licence, to discharge into any river the following matters:

(a) Any poisonous, noxious or polluting matter that will render such river as harmful to public health, animal, vegetation or its other beneficial users;

(b) Any matter with temperature, chemical or biological content or effect in discolouring the water makes such river as potentially dangerous to public health, animal, vegetation or its other beneficial users;

(c) Any matter, which due its physical nature or its effect in discolouring the water makes such water difficult to treat; or

(d) Oil of any nature irrespective of whether it is used, waste or otherwise.

There are two main federal legislations relating to land. Firstly, the National Land Code 1965, which generally provides for the registration of title to land and dealings of lands and the Land Conservation Act 1956 (revised 1991), which relates to the conservation of hill

land and the protection from erosion of soil and inroad of silt. The National Land Code was enacted pursuant to Article 76(4) and shall apply only to the States of Malaya, which refers to the states in the peninsular Malaysia, and basically reflects the Malaysian Torrens System (The law that deals in land and land tenure, the registration of title and dealings to land and collection of revenue from land). The Land Conservation Act 1956, meanwhile, is more relevant to the issues of biodiversity conservation and management. This Act was enacted pursuant to Article 76(3), which requires to be adopted by the States in order to be applicable of those States. 11 States in the Peninsular Malaysia have adopted this Act. Part II provides for the control of hill land where it expressly prohibits plantation of short-term crops on any hill land except under permit, which can only be issued by the Land Administrator if he is satisfied that such cultivation will not cause soil erosion (Section 5). Clearings and cultivation of hill land are also prohibited provided there is permit by the Land Administrator.

The Aboriginal Peoples Act 1954 provides for the protection, well-being and advancement of the aboriginal people in the Peninsular Malaysia. The Act provides that the State Authority may gazette any area exclusively inhabited by aborigines as an aboriginal reserve (Section 7). Any area predominantly or exclusively inhabited by aborigines may also be gazetted by the State Authority as aboriginal area (Section 6), within which there shall not be any land declared as a Malay Reservation under any written law relating to Malay Reservations or a wild sanctuary or reserve (Section 6(2)(i) and(ii)). Similarly, no land within aboriginal area shall be alienated, granted, leased or disposed to persons who are not aborigines and no licence shall be issued for collection of forest produce within an aboriginal area. Nevertheless, these rights of the aborigines may only be partially protected where as noted earlier, these lands may subsequently end up becoming part of a reserved forest under the relevant forest laws of the states because of the absence of proprietary tenurial right over their 'forested land'. Since forests are separated from the land under the unique legislative arrangement of the Malaysian law, the rights of these indigenous people to their forested lands will only thrive as a common law right of usufruct: what they have is only the right to live from the forest land but not to the land itself.

Another federal legislation related to biodiversity conservation is the Protection of New Plant Varieties Act 2004, which provides for the protection for farmers and plant breeders, including indigenous people, rights in conserving, improving and providing genetic resources for the cultivation of new plant varieties as well as to encourage investment and development of breeding new plant varieties. Under this post-CBD law, traditional knowledge of the local and indigenous communities appears to be given cognizance. Where a new plant variety is developed from traditional varieties, Section 12(1)(f) warrants for any application to the Plant Varieties Board for its registration and a grant of a breeder's right be accompanied with the prior written consent of the "authority" representing the affected local community or the indigenous people.Conversely, this Act is silent on the "authority" that is supposedly representing these communities.

Apart from this provision on traditional knowledge, other attempts to comply with the CBD can be witnessed under this provision. Subsection (g) requires such application to be supported by documents relating to the compliance of any laws regulating access to genetic or biological resources or Access and Benefit Sharing, which are yet to be put in place. Likewise, in cases where the development of the plant variety involves genetic modification, subsection (h) warrants for supporting documents relating to the compliance of any laws regulating activities involving genetically modified organisms, which is the Biosafety Act 2007.

Two other relevant legislations are the Plant Quarantine Act 1976, which was enacted to amend and consolidate the laws relating to the control, prevention and eradication of agricultural pests, noxious plants and plant diseases and to extend co-operation in the control of pests movement in international trade and the Pesticides Act 1974, which regulates the

use of pesticides containing active ingredients in Malaysia.

In the absence of a comprehensive legislation on biodiversity conservation and management, these piecemeal legislations may be considered to collectively suffice as a regulated legal regime that can perform effectively in conserving and managing biodiversity. Nonetheless, since most of these laws are sector-based and their custodians as provided under the legislations vary between various government departments, the overall objectives forsustainable biodiversity conservation and management,as demanded by the CBD as well as the Cartagena Protocol on Biosafety, may be difficult to materialise.The fact that almost all the existing laws,with their designated custodian agencies, were enacted long before the need for sustainable biodiversity management first came into the picture may perhaps lead to incoherence when it comes to enforcement. Apart from the Protection of New Plant Varieties Act 2004, which briefly touches on traditional knowledge, Access and Benefit Sharing and genetically modified organisms, the remaining legislations are still mum and incoherent on providing for the sustainable management of biodiversity in Malaysia.

Conclusion

It may be surmised that the current legislative framework creates some restrictions, thereby causing some deficiencies for an effective conservation and management of biological diversity. According to a report by the Forest Research Institute Malaysia (FRIM, 2008), the restrictions are (i) absence of an integrative approach across the sectors due to the limited scope of various enactments in relation to biological diversity conservation; (ii) lack of consideration of the overall objectives of biological diversity conservation; (iii) lack of comprehensive coverage of biological diversity issues; and (iv) the areas of jurisdiction of Federal and State Governments as defined in the Constitution lead to non-uniform implementation between states.

Malaysia has amply shown her commitment towards environmental issue and the conservation of biological resources both through effective domestic legislative, administrative and policy measures as well as active involvement in and speedy ratification of international agreements and protocols on environmental biodiversity and safe and sustainable use of resources. However, despite this positive attitude towards sustainable use of resources, there are many policy and legislative aspects of safe and sustainable use of resources that require urgent revisit, especially having in mind Malaysia's obligation to comply with international protocols.

As of now, there is no single unified and comprehensive federal legislation to deal with the management, safe and sustainable use of biological resources where the existing piecemeal legislations are still segmented and sector -based. This is quite understandable in view of the fact that resources are under the jurisdiction of individual states. This notwithstanding, there are provisions in the Federal Constitution to enable such a broad comprehensive federal law on biodiversity to be enacted. A single and comprehensive law that caters for the sustainable management of biodiversity in Malaysia, to be followed with an equally single administrative agency as custodian to the law, may perhaps become the solution to guarantee effective implementation and enforcement of such a law. Such a law may provide for the much needed central direction and central authority to meet the many demands of the CBD as well as the Cartagena Protocol on Biosafety.

References

Ansari, A. H. (2008). *"Future Directions in Conservation of Biological Diversity: An Interdisciplinary Approach" in* Michael I. Jeffery *et al*, Biodiversity and Conservation: Bridging in North and South Divide. London: Cambridge University Press.

Chan, L. H. (2002). *The Impact of Present Forest Policies on Sustainable Forest Management in Malaysia*. Forest Policy Workshop Kuala Lumpur, Malaysia, 22-24 January 2002.

Cunningham, W. P. & Cunningham, M. A. (2007). Environmental Science Global Concern, New York: McGrawHill.

Department of Forestry. *"Policy and Legislations"*. Retrieved from http://www.forestry.gov.my/ePolicy.html on 15/10/08.

Etkin, Nina L. (1998). "Indigenous Patterns of Conserving Biodiversity: Pharmacological Implication'. *Journal of Ethno Pharmacology,* 63(3): 233-245.

Facts on Forests and Forestry. (2009). Retrieved from http://www.forestfacts.org/l3/forests_6.html on November 18, 2009.

Forest Research Institute Malaysia. *"Status of Biological Diversity Management in Malaysia"*. Retrieved from http://www.frim.gov.my/CHM/IFBiologicalDiversityStatus.html on 15/10/2008.

Kwan Khai Hee. (2007). "Malaysia's Biosafety Bill & NDASH: Throwing Precaution to the Wind?" 5 CLJ i.

Malaysian Ministry of Natural Resources. (2008). "The Biosafety Act of Malaysia: Dispelling the Myth". Retrieved from http://www.nre.gov.my/opencms/NRE/EN/Services/Biodiversity on 15/10/2008.

Malaysian Ministry of Natural Resources. (2008). Retrieved from http://www.dmpm.nre.gov.my/jtl/content.php/lang on 26/10/08.

Malaysian Timber Corporation. (2008). Retrieved from http://www.mtc.com.my/issues/index.php on 15/10/2008.

Michael, I. Jeffery *et al*. (2008). Biodiversity and Conservation: Bridging in North and South Divide. London: Cambridge University Press.

Nicholas, Colin. (2002). *"Indigenous Politics, Development and Identity in Peninsular Malaysia: the Orang Asli and the Contest for Resources"*. Indigenous Rights in the Commonwealth Project South & South East Asia Regional Expert Meeting, Indian Confederation of Indigenous and Tribal Peoples (ICITP), New Delhi.

Nijar, G. S. (1995). "Rights Regime" in A. H. Zaki (Ed.). *Prospects in Biodiversity Prospecting,* Universiti Kebangsaan Malaysia. 225-265.

Rachagan, S. Sothi. (1981). "Sustainable Forest Management in Malaysia – Guidelines for Conflict Resolution". Retrieved from http://enviroscope.iges.or.jp/modules/envirolib/upload/1504/attach/ir98-2-9.pdf. on 12/12/11.

Sandin, P. (1999). "Dimensions of the Precautionary Principle". *Human and Ecological Risk Assessment.* 5: 889-907.

Secretary General of the Ministry of Natural Resources and Environment speech at the International Conference on Biodiversity: Science and Governance at UNESCO Headquarters, Paris on January 24 to 28 2005.

Shaik Mohd Noor Alam S. M. Hussain&Wan IzatulAsma Wan Talaat. (2009). Precautionary Principle in the Malaysian Biosafety Law. *Journal of Sustainability Science and Management*, 4(2): 146-156.

Srividya Ragavan. (2001). Protection of Traditional Knowledge, *Minnesota Intellectual Property Law Review*, 2: 2.

Sulaiman, S. S. & Md. Khalid, R. (2008).*"Biodiversity Conservation in Taman Negara – Legal and Planning Issues",* International Conference on Environmental Research and Technology, Penang.

The Star, 4.10.2008.

World Bank. (2002). *Biodiversity Conservation in Forest Ecosystems – World Bank Assistance, 1992 - 2002*. Washington DC: The World Bank Group.