ABSTRACT

Keyword: environmental policy, environmental management, security, development, natural resources.

This paper looks at the policy implications on environmental issues in Malaysia in order to enjoy its security and development without jeopardizing its natural environment. In doing so, this paper is divided into four topics. First, the meaning of environment in security and development is deliberated to determine the changes due to economic development. Secondly, the environmental policies and management in maintaining security and in promoting development without damaging the environment. Thirdly, appropriate incorporation of national, regional and global natural resources to support such policies are recommended for due consideration by policy makers. Fourthly, the future challenges and problems are considered in environmental policies and management in Malaysia. Studies have shown that developed countries with exception of United States and a number of European countries (Thomas Sterner, 1999), had scarified their environment in order to achieve the present economic success. Malaysia has achieved significant economic growth during the last two decades³, which secures security and further development. Security and economic development can be jeopardized, if implementation of environmental policy and management is not properly addressed. Malaysia experienced a unique situation, where a significant economic development has been achieved without sacrificing most natural environment. But, the recent shift towards tourism, eco-tourism, education, heavy industrial such as automobile and oil refinery has created new environmental problems. If above development trends continues, the present balance between economic development and natural environmental sustainability cannot be maintained in the longer term. The government’s prime concern is to formulate appropriate macroeconomic policies for the prevention, protection and preservation of existing environmental qualities in the country. Increasingly concerned being expressed about the serious threats to the environment, natural resource base, and human health posed by rapid economic growth. The Government needs to respond to these environmental threats with effective policies that strive to integrate economic and environmental policy making. However, political scenario paints a different picture, balance economic and environmental considerations and to turn environmental programs into concrete action is emerging only slowly

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³ Economic Report, 1999/200, Ministry of Finance, Malaysia,
1.0 The Meaning of Environment in Security and Development

The concepts of environmental security and environmental conflict have been increasingly discussed during the last few years. This is partly because of the environment may become relatively more important as a cause of conflict. Conflict may become war within a state or between states. Alternatively, even if fighting does not occur, there may be trade wars, or breakdown of co-operation between different groups of people. The tensions between nations of the North and the South for example, at UNCED, reduced the possibility of reaching international agreements on environmental issues. In this broader security context, state’s compliance with their international environmental obligations has become a more critical issue in international affairs than ever before. This is evident from the attention the subject received during UNCED as well as the negotiation of recent landmark environmental treaties, including the 1987 Montreal Protocol on substances that deplete the ozone layer and the 1992 Conventions on climate change and Biological Diversity.

Three factors underlie this increased concern with compliances. First, the growing demands and needs of states for access to and use of natural resources, complete with a finite, and perhaps even shrinking, resource base, lay the groundwork for increasing inter-state tension and conflict. Second, as international environmental obligations increasingly affect national economic interests, states that do not comply with their environmental obligations are perceived to gain unfair competitive economic advantage on other states. Finally, the nature and extent of international environmental obligations have been transformed in recent years as states assume greater environmental treaty commitments. On the global level the WTO Committee on trade and the environment is struggling to make programs on developing guidance to the contracting parties to the WTO on a number of contentions issues, such as on specifying exactly in what cases trade measures might be justifiable in support of environmental policy objectives.

Trade liberalization entails the reduction of import tariffs and the phasing out of subsidy payments and tax exemptions given to exporting industries. It is part of a package of broader policy, measures designed to harmonize regulations and standards between countries and to facilitate economic and social interactions between countries. Trade Liberalization can result in structural effects (shift in economic activities from one sector to another) and scale effects (increase in existing activities.) Economic Liberalization and free trade has positive and negative environmental impacts. The attempt to introduce a carbon dioxide/energy tax in all member countries of the European Union failed in 1995. Economic Integration and Fee Trade was always considered as environmental pressures. All ASEAN countries have various environmental laws and sustainable developments programs in place. In general, such laws and regulations have been and are being developed with little involvement of either the general public or political parties. Definition of environmental policy objectives and the formulation of environmental policy instruments in ASEAN countries remain almost entirely a top-down process and are largely the result of the individual preferences of political leaders.
The concepts of environmental security and development are not complete without including EIA. EIA is considered as one of the most important instruments can be used to evaluate the impact of a development towards environment and mankind. EIA requirements for deciding the type of development projects that should be funded through public and private investments in getting increased. EIA instruments would go far in assuring improved integration of environment and economic objectives. Economic valuation of noncommercial use of natural resources can help in establishing baselines for EIA that weigh market returns of investment against losses incurred from environmental degradation and public health.

1.2 The Environmental Policies and Management in Maintaining Security and in Promoting Development without Seriously Damaging the Environment

One of the most pressing issues of global change research focuses on the human management of natural land cover or its conversion for human use. While much anthropogenic land use takes place at the scale of small individual units of production, its impact is global and cumulative. It is also clear that in the 20th century anthropogenic land use has accelerated, with complex and important implications for micro and landscape-scale environmental degradation (Blaikie and Brookfield 1987; Turner 1991) and for more global processes of environmental change (Turner et al. 1993). As Turner has argued, there are two kinds of global change important to the consideration of human land use: "systemic" global environmental changes (biogeochemical and hydrological cycles, for example), and "cumulative" global changes (changes in soil composition or biodiversity) (Turner 1990). To this we add the argument that human land use is interesting in its own right because it provides the interactive medium by which human societies and biophysical dynamics of the biosphere co-mingle. Land use, in all its complexity, also feeds back into multi-scale social driving forces such as population, agricultural development, built environment, and so on.

One of the new and controversial findings of the 1970s has become one of the commonplaces of current landscape scale ecology; that local ecological change must be thought of in terms of more general environmental impact (Holling 1986). This observation seems particularly valid for land use and land cover change, as they are demonstrably local phenomena with global impacts. Land use change is typically thought of as having global impact in the cumulative sense with respect to biodiversity, soil degradation, and desertification. In addition, it has a direct global impact with respect to open biogeochemical cycles (those that include an atmospheric component, including the hydrologic cycle) and albedo effects. In recent years, the human management strategies or land cover and use have also taken on such a multi-scale aspect, or at least aspire to.

In this paper, the environmental tragedies due to wrong understanding of environmental security and development will be studied according geography terminology. According to Sanderson & Prithchard (1993) land, use changes can be defined as change of original land cover to a new landscape. Even a small change to the land cover can categorize as land use changes. Land use changes occur due to many factors, but, the most influencing factor must be human intervention, such as agriculture, urbanization, building of infrastructure (roads, dams) and recreational activities.
Over one-third of the land, area of the world is in cropland or pasture, and a third is still covered in forests and woodlands. The two dominant land use activities are forestry and agriculture. While increasing amounts of land have been and will continue to be lost to cities, infrastructure and various forms of permanent degradation brought about through desertification, erosion, salinity, toxic waste and mining, it is successful agriculture and forestry that will ultimately decide whether life on earth can be sustained. Recognizing the importance of studies in land-use (such as logging, ranching, agriculture, wildlife preserve, urban settlements) and land-cover (such as forests, grassland, cropland, wetland, non-biotic construction) change for understanding global environmental change, the international Geosphere Biosphere Programme (IGBP) and the international Human Dimensions Programs on Global Environmental Change (IHDP) formed an ad-hoc working Group in 1991.

Every city or region must make decisions about how to use land and where to place houses, schools, libraries, airports, hospitals, prisons, power plants, roads and airports. Often there is a great deal of controversy over land use decisions. For example: i) Residents do not want factories, prisons or airports near their homes, ii) Developer argues for zoning laws permitting them to build multi-unit housing on agricultural lands, iii) The utility company and homeowners debate the safety of building a nuclear power plant on a known earthquake fault, iv) Commuters and landowners often disagree on plans for widening or building new highways or rapid transit systems. Land uses changes mainly controlled by an important factor, which is fast population growth, especially in the developed world. In just over 50 years, the world’s population will have increased from just over 5 billion to 10 billion; twice as many mouths to feed, twice as many families needing energy, clean water, fibers, paper, vegetables oils, timber, and shelter. In the last 50 years, the World’s population has doubled from about 2.5 billion. History shows that our ingenuity and strong instincts for survival will drive us to meet our immediate needs; we have been remarkably successful, even if this has been achieved at costs to the environment. Populations have more or less stabilized in the industrialized countries, but continue to grow in the emerging and developing nations.

The World’s population is urbanizing faster than it is growing. The majority of people in industrialized countries and Latin America already live in an urban environment, so it is in Asia and Africa where urbanization will increase most rapidly. People who live in urban areas have different, often more demanding, patterns of consumption of food, building materials, water and energy; they have higher expectations for a better quality of life. In April this year, the UNCSD agreed to establish an Inter-Governmental Panel on Forests to promote international consensus, cooperation and action on forest management. In his concluding remarks, the Chairman of CSD underlined:-

“An integrated approach to the planning and management of land resources was presented as a cornerstone in combating deforestation, desertification and drought; promoting sustainable agriculture, rural and mountain development; the conservation of biological diversity and the sustainable management of all types of forests”.
Sustainable patterns of production and consumption are popular concepts that are universally accepted as and the ideal towards which we should move. They are not a Utopian plateau upon which, once achieved, we can rest. Population growth, natural and man-made disasters, fluctuations in weather patterns and commodity prices, and rising expectations will require constant vigilance, maintenance and adaptation. Old technologies and some of the new ones will prove deficient in some way, as the sensitivity of our monitoring techniques improve our tolerance to imperfection decreases and our demands increase. Many aspects of sustainability are measurable and monitorable – such as land use, biodiversity, vegetation, land productivity and pollution levels – but others are about opinion, democracy and choice. Social and economic, institutional and financial criteria will increasingly dominate decision-making on sustainability. Acceptable indicators or standards can be negotiated amongst stakeholders. The decisions made by societies on what we should sustain, where, how, for whom and for how long will have an increasing influence on land use practices. In the United Kingdom, the decisions in land use and the ownership of forests are increasingly influenced by public, often urban, opinion. It is the role of science and technology to help meet human needs, and realize their aspirations and goals – sustainable.

The extent of human ingenuity employed in the manipulation of ecosystems and the resulting range of agro-systems are quite remarkable. Some agricultural systems may rely almost entirely on solar energy whereas others are characterized by a massive fossil-fuel energy subsidy. Whatever forms it takes, agriculture is major agent of environmental change, possibly the most significant agent. The nature and organization of agricultural systems are responses to cultural stimuli, which operate within the constraints of the physical environment. The stimuli may include population growth rates, availability of markets, and the need to generate foreign currency and the desire for food security, which relates to political superiority. The responses may include increased energy inputs through scientific and technological developments, e.g. pesticides and fertilizers, an increase in land clearance and a decrease in the length of fallow periods. The practice of agricultural caused the removal of a significant proportion of topsoil, which resulted in land degradation. This increases the siltation in the river systems, which can contribute to flash floods and mud floods. Arguably, land degradation is the single most pressing current global problem. As a result of remote sensing evidence we know that since 1945 1.2 billion ha, an area roughly the size of China and India combined, have been eroded at least to the point where their original biotic functions are impaired. Decline in potentially cultivable land leads farmers to cultivate steeper and steeper slopes. This may cause landslides on hill slopes.

Landslide may not be as spectacular or costly as earthquakes, hurricanes or some other natural disasters. However, landslides are known to cause just as much if not more damage as any other geological hazard. We should know, as Malaysia has had its fair share of catastrophic landslides, putting aside property damage, it is the loss of lives that is most devastating. Back in December 1993, the Highland Tower tragedy claimed the lives of 48 men, women and children (including an infant). One of the three blocks of condominium at Highland Tower in Hulu Kelang, Selangor toppled following a massive
landslide, which swept away the foundation of the building? The mass movement processes that are most common in the Wairoa District are shallow slip and earthflow erosion. There is considerable evidence for frequent shallow slips under natural conditions (Clough, Hicks, 1992). Slipping is induced by short intense rainstorms or prolonged wet weather. The magnitude of slipping in any event is complex. Slipping under pasture occurs more intensely than under forest for storm events of the same magnitude. Therefore, average levels of slipping under pasture are between two and ten times greater than under indigenous forest or scrub (Clough, Hicks 1992).

In June 1995, the infamous Genting bypass landslide took the lives of 21 people. The incident gained notoriety after Works Minister Datuk Seri S.Samy Vellu attributed the cause of landslide to an “act of god.” In August the following year, an orang Asli settlement in Pos Dipang, Perak was swept away by a torrent of water and debris from a nearby hill. The incident claimed 44 lives, and caused extensive damage to the settlement. Another case of “divine” intervention, perhaps? Events that are even more devastating can be traced throughout history. An incident in Aberfan (pronounced Abervan) in 1966 is a classic example of how indiscriminate mining resulted in the loss of life of over 100 children and adults. Aberfan in Cardiff, Wales, was at one time a peaceful hillside town until coal was discovered in the mid 1800s. From then on, shafts were sunk to mine coal waste sky high. Some of the piles, known as tips, reached over 50m in height. These tips of coal waste were a disaster waiting to happen. On October 21, 1966, one of the tips started to move down the hill. A slow, almost unnoticeable slide then came crashing down within minutes, engulfing a school and a number of farm hoses. In its aftermath, 144 people died, of whom 116 were children.

Landslide occurs when masses of rock, earth or debris move down a slope. Landslides may be very small or very large, and can move at slow to very high speeds. They are triggered by storms, fire and human interference with the land. Landslides occur as a result of rainstorm, earthquakes, volcanic eruptions, and various human activities. Mudflows (or debit flows) are rivers of rock, earth, and other debit saturated with water. They develop when water rapidly accumulates in the ground, such as during heavy rainfall. They change the earth into a flowing river of mud or “slurry”. Slurry can flow rapidly down slopes or through channels, and can strike with little or no warning at avalanche speeds. Slurry can travel several kilometers from its source, growing in size at its picks up trees, cars, and other materials along the way. Mudflows tend to flow in channels, but will often spread out over a flood plain. They generally occur in places where they have occurred before.

A mudslide one type of landslide is a sinkhole. Steep hills and mountains are often the sites of land and mudslides. Many things weaken slopes on these hills, and mountain. Erosion by rivers, glaciers or ocean waves and fire leave slopes bare and vulnerable to heavy rain. Snowmelt can saturate the ground, and earthquake weakens the structure of the slope. Volcanic eruption produces loose ash falls that deposits debris on slopes. The weight of snow, stockpiling of ore, waste piles, and even building can put stress on weak hillsides. Once a slope is weakened, almost anything can set a landslide off. Rain,
earthquakes, and even blasting are common causes. If the hillside is dry, dirt and rocks can tumble the grade. If however, the slope is saturated with water, a mudslide occurs. This more destructive flow can pick up rocks, trees, houses and cars. As the debris moves into river and streambeds, bridges can become blocked or even collapse, making a temporary dam that can flood neighboring areas.

Land management often causes landslides, mudflows and debris flow problems. Improper land-use practices, particularly in mountain, canyon and coastal regions, can create and accelerate serious landslide problems. Landslides happen in areas that have very weak or stressed material resting on steep slopes. Even gentle hills can slide if the conditions are right. If you are in area that has a history of landslides, be aware of the signs that will alert you to the possibility of a landslide. The causes of artificial landslide lie in the way soil has been cut or banked. The speed of a landslide varies greatly, ranging from a slow rate of one cm a year to a speed of several meters a day. The speed can change over a period of time. In the case of landslide covering a wide area, several slides may take place at the same time, each one having its own rate of slippage.

In May 1970, an earthquake in Peru claimed about 70,000 lives, of which 20,000 perished as a result of the debris avalanche from the north peak of Nevado Huascaran. During the period 1971-75, some 19,000 lives were lost in earthquakes, tsunamis, volcanic eruptions, landslides, and snow or ice avalanches. About 84% of the casualties were attributed to earthquakes and 14% to landslides. Annually, direct or indirect costs or landslides in the US have been estimated to exceed US$1 billion. Landslides and mudflows sometimes strike without warning signs, only taking notice when it is too late. The force of rocks, soil, or other debris moving down a slope can devastate anything and everything in its path. Landslides should never be taken lightly.

1.3 Appropriate Incorporation of National, Regional and Global Resources to Support Such Policies are Recommended for Due Consideration by Policy Makers.

1.3.1 Drivers of Global Environmental Degradation

Over the past two centuries, both the human population and the economic wealth of the world have grown rapidly. These two factors have increased resource consumption significantly evidently in agriculture and food production, industrial development, international commerce, energy production, urbanization and even recreational related activities. While the global population more than doubled in the second half of the last century, grain production tripled, energy consumption quadrupled and economic activity quintupled. Within the perspective of globalization, although much of this accelerating economic activity and energy consumption occur in development world is beginning to play a larger role in the global economy and hence, having increasing impacts on resources and the environment.

The implication of human activities for the Earth system become apparent when the myriads of smaller human-driven changes are aggregated globally over long periods of time, influencing Earth System functioning as a global scale force in their own right. Just
as connections in the biophysical part of earth System link processes across long distances, socio-economic and cultural connections link human activities in widely separated regions of the planet. Urban areas, for instance, depend on large hinterlands to supply their population demands for food, fiber and other ecosystem services. One large scale, the phenomenon of globalization is equally profound. Investment, industrialization, commercialization, and economic activity in general are increasingly operating across national boundaries and in a growing global system. Investment decisions in Europe and North America, for example, can lead to sharp changes in the rate of deforestation in Amazonia, and to the accompanying environmental consequences. Today, urbanization and globalization will undoubtedly be profound drivers of environmental change at the global scale the next several decades.

1.32 Global Economy and the Sustainable Development of Natural Resources

In the early 1990s, popular concern about mounting environmental degradation swept the global. This historical moment was crystallized in the 1992 UN World Conference on Environment and Development, known as the “Rio Summit”. The Summit coalesced around the concept of sustainable development: the idea that environmental protection could and should be built into design of economic development plans and policies, rather than be addressed as an aftermath of economic growth. The Summit produced a sweeping plan of action called Agenda 21 and called for both states and international organizations to begin implementing it. For another direction, global conscious institution especially the General Agreement on Tariff and Trade (later the World Trade Organization) and APEC have also called for sustainable development to be incorporated within liberal trade rules. However, despite these attempts by governments and institutions to integrate the soft law approach to sustainable development, the world still faces significant environmental problems such as shortages of clean and accessible freshwater, degradation of terrestrial and aquatic ecosystems, increases in soil erosion, loss of biodiversity, changes in the anticipated changes in fisheries and the anticipated changes in climate.

These changes are occurring above the stresses imposes by the natural variability of a dynamic planet. In 1987 the Bruntland Commission’s Common Future detailed the challenges to the environment and sustainability arising from activities within particular sectors, energy, industry, agriculture, urban systems living resources and human population. Since this report, substantial progress has been made, yet much more is needed. In industry, for example, there have been considerable improvements in reducing and reusing materials, and reducing wastes⁴. This trend towards dematerialization must be accomplished globally and at much greater rate.

In the energy sector, gradual progress has been made in increasing efficiency and in developing of alternatives to fossil fuel sources, but critical air pollution and global green house gas problems resulting from fossil fuel combustion continue to grow around the world. Dramatic increases in energy efficiency decarbonization and the development utilization of new sustainable energy technologies are needed. In agriculture, it has

⁴ Recycling of used materials were introduced to minimize the depletion of natural resources
become common as food demand rises and less land is available for conversion, the use of fertilizers are intensified, thus mobilizing their loss to the atmosphere and waterways. Biomass burning associated with land clearing and agricultural practices in Southeast Asia in an important regional political issue, but the environmental effects are global.

Satellite imageries in February 2001 showed strong production of carbon monoxide centered in Thailand, a result of seasonal burning as part the normal agricultural practices. The carbon monoxide, an oxidizing gas that has a number of implications for Earth System functioning, on this occasion farmed a plums that extended all the way the pacific Ocean to the west coast of North America. There are a number of constraints towards sustainable development of the environment (natural resources). This includes; i) Environment problem are generally borderless; ii) Environmental and resource management are largely the unilateral preserve of nation states; iii) Environmental cooperation is not truly global. Adequate structures are needed to organize international cooperation at all levels affecting the development of environmental resources; iv) Environmental problems operate within a multiple cause and affect linkages, which are not readily understood; v) The development of an integrated scientific approach towards the goal of understanding the dynamics of the Earth System; vi) Digital divide and information dissemination, for making decisions under a wide range of uncertainties, a common knowledge base of clear, concise and unbiased scientific information must be made available to politicians, business people, environmentalists and the general public to ensure informed debates and potential response actions.

Although science has vastly improved our understanding of the nature of global change, it is much more difficult to discern the implications of the changes. They are cascading through the Earth’s environment in ways that are difficult to understand and often impossible to predict. The human driven changes to the global environment will, at least require societies to develop a multitude of creative responses and adaptation strategies at the sources, pathways and targets in natural resources development and global trade.

1.4 The Future Challenges and Problems are considered in Environmental Policies and Management in Malaysia.

There are major environmental problems in Malaysia and they include the following; i) The logging rate in Malaysia during the last decade has been around 800,000 acres per annum. The ecological outcome of deforestation includes soil erosion, silting of rivers and floods, climatic change, loss of fauna and flora and disruption to the lives of rural farmers; ii) Soil erosion resulting from deforestations, construction projects and land development activities has silted ponds, lakes and rivers causing frequent floods and depletion of valuable topsoil. Cutting of hills and felling of trees on undulating land has also caused destruction of headwaters and silting of rivers. As a result, there is destruction of watersheds leading to reduction of water supplies in reservoirs. The Malaysian Water Association has projected a major water crisis by 2010 if water resources management is not taken seriously (New Straits Times, 1998); i) There has been gradual destruction and degradation of mangroves and wetlands; ii) With the phasing out of traditional systems of agriculture, there is uncontrolled use of pesticides.
As a result, there is the problem of contamination of the topsoil; iii) There have been continuous loses of bio-diversity, in terms of species of animal, fish and plant life.

Other environmental issues that are of current concern within Malaysia, but which have attracted much less international attention, include; i) atmospheric pollution by industries and vehicles; ii) river and coastal pollutions by industrial effluent, sewage and agricultural chemicals; iii) the modification of coastlines, coastal wetlands and drainage systems by reclamation and resort development; and iv) The raising of water tables and soil salinity by excessive run-off from irrigation systems.

1.41 Environmental Management System as Part of Enhancing Environmental Policy

The Scheme of Fundamental Liberties

In Malaysia, the Malaysian Constitution does not specifically deal with the environmental rights. However, recent court decisions had indicated that the right is implicitly provided by Article 5, which guarantees right to life and liberty.

Case:  *Tan Teck Seng v Suruhanjaya Perkhidmatan Pendidikan* [1996] 1 MLJ 261

Gopal Sri Ram JCA in his judgment state:-

“.. *The expression ‘life’ appearing in Article 5 does not refer to mere existence. It incorporates all those facets that are an integral part of life itself and those matters which go to form the quality of life. Of these right to seek and be engaged in lawful and gainful employment and to receive those benefits that our society has to offer to its members. It includes the right to live in a reasonably healthy and pollution free environment [the emphasis is mine].”*

It must be pointed out that although the above case was purely on unfair dismissal, it defines the Article 5 on a broader view. In another case, i.e.

*Ketua Pengarah Jabatan Alam Sekitar & Anor V Kajing Tubek & Ors and Other Appeals* [1997] 3 MLJ 23, the judge pronounced that the aborigines have property rights over the Linggiu Valley and the Defendants have been deprived to the right of heritage in land, freedom of inhibition or movement under Article 9(2), deprivation of produce of the forest, deprivation of future living for himself and his immediate family and deprivation of future living for his descendants.

From these cases, it could be said that the judiciary appreciated the existence of the right to environmental protection.

1.42 The Growing Awareness On Environmental Issues Among The Public, Policy makers, Academicians and International Community
As the international community has taken its serious effort to preserve the environment since 1972 by organizing various international Summit and Conference on Environment and making declarations e.g. Stockholm Declaration 1972, Rio Declaration in 1992, Copenhagen Declaration in 1995. Malaysia who is also signatories to Rio Declarations and to honor the commitment that our country had undertaken, it is wise if the rights is given a special treatment by declaring it as a fundamental right in this country. There are at least 45 environment related legislation in the country. A large part of this law is sectoral in nature and is within the control of several different agencies either at federal, state or local-government level. Hence, the enforcement is rather piecemeal and does not encourage an integrated approach on environmental management. Generally, it had been accepted that the problem on the enforcement of law is hampered by the scheme of distribution of legislative and executive power between the Federation and the State.

National Environmental Policies

Early environmental legislation in Malaysia was primarily concerned with forestry and mining matters. Soil conservation and health, the latter particularly concerned with the eradication or control of insect-borne diseases, notably malaria, were also the subject of environmental legislation (Aitken et al., 1982).

Environmental problems in Malaysia have not been totally neglected in the past. Twenty-five years ago, a national policy to deal with environmental issues was formulated with the introduction of the Environmental Quality Act 1974. This move led to the establishment of the Department of the Environment in 1975. The Third Malaysia Plan, 1976-1980 (Government of Malaysia, 1976) too addressed some of the environmental issues. The first paragraph of that chapter stated the following: ‘Environmental improvement and protection will receive the full attention of the Government in the planning and implementation of programmes in the Third Malaysia Plan’. In 1989, Malaysia sought to establish itself as a country committed to environmental issues when it initiated the Langkawi Declaration on the Environment at the Commonwealth Heads of Government Meeting (CHOGM). In addition, under the umbrella of the Association of Southeast Asian Committee on Science and Technology, projects were initiated within the ASEAN Environmental Programme. There years later, Malaysia convened a conference at Kuala Lumpur, attended by representatives from 55 nations, in order to set the Third World agenda for the earth Summit held in Rio de Janeiro in June of that year. The Kuala Lumpur Declaration stressed the linkage between environment and development and called upon the advanced countries to adjust their consumption and production patterns towards environmentally sound development.

Environmental Management system should Be Improved

The checking system of environmental performance should be strengthened. This system may be adopted for the protection of land and mineral resources. By doing so, the capacity of government at various levels in managing the population, resources and environment could be enhanced. The adoption of voluntary certified standards of environmental management for industries, of the type of ISO 14000 and EMAS
(Environmental Management and Audit Scheme), should be encouraged.  
The Malaysian Experience

Efforts at managing the environment in this country was started since a few decades ago, especially through legislative measures after the Department of Environment was set up in 1975. Increased development in all sector of the economy, especially in manufacturing and heavy industries during the last three decades not only led to increasing environmental degradation, but the problems also became very varied. The introduction of planning measures incorporating environmental input in project development through environmental impact assessment (EIA) and followed by the concept of sustainable development influenced the management efforts and environmental quality in this country. Although there have been failures and a number of success in EIA, it is envisaged that at the turn of the century, new environmental issues beside persistent old issues will phase added challenges in environmental management efforts.

It has been more than twenty-five years since the Department of Environment was formed to handle environmental issues in this country. In fact, efforts at managing the environment were started by British more centuries ago. The Matang Mangrove Forest Reserve situated in Perak is the living example of the British efforts. The principles that govern the concept of sustainable development highlight the needs to include environmental consideration are all development undertaking (World Commission of Environment and Development 1987). The subsequent inclusion of the concept of sustainable development in the National Environmental Policy objectives and prioritized by the Department of Environment in its efforts at managing the environment certainly augur well for the environment right into the new millennium. However, with the present systems of governance and environmental management is the country really prepared to manage the environment to face challenges in the new millennium taking into account that the country is striving to be a fully developed nation by the year 2020.

An organized and committed effort on the part of the government to manage environment in Malaysia was started a few years after the 1972 Stockholm Conference on Human Environment through the formulation of the Environmental Quality Act, 1974, followed by the setting up the Division of Environmental (presently known as the Department of Environment) in 1975. The inclusion of the National Environmental Policy Objectives for the first time in the third Malaysia’s five-year development plan (Malaysia, 1976), further shows the government’s concern for the environment alongside the efforts to develop the nation’s economy. One of the steps taken to ensure policy is carried out according to the set objectives is by formulating laws. Laws are essential in guiding enforcement efforts and in the formulating subsequent policies in carrying out environmental requirements (Environmental Protection Agency 1992.) Environmental legislation has long been used in Malaysia as one of the strategies to manage the environment. To date there are more than 45 pieces of environmental legislation available in Malaysia.

Most of the legislation is not formulated to deal with the environment in general. Most of them seek to regulate human activities that may directly or indirectly affect the quality of
the environment. Some are preventive in nature for the purpose of environmental deterioration. Some of the environmental legislation is in fact environmental resources legislation. Most of the environmental-related legislation is actually natural resources laws that are ‘use-oriented’. They are designed for the maximum exploitation and development of natural resources. Environmental legislation is; resource-oriented’, which are designed for the national conservation of natural resources in order to prevent their depletion and degradation. Thus, most of the legislation formulated before the Environmental Quality Act, 1974 do not contain criteria and standards. Even those that contain standards such as the Mining Rules, 1934, were inadequate.

There is no question of overlap between the state enacted legislation as most of them are legislation related to natural resources which are under the jurisdiction of the individual state. However, there is certain Federal Legislation which overlaps with each other and also with state enacted legislation. The environmental Quality Act, 1974, which was made to protect the environment in general contains provisions which touch on matters which are under state jurisdiction especially regarding matters connected to natural resources. Only provisions on air, industries and chemicals are not under the state jurisdiction. The overlap in the provisions over matters related to water and air pollution is very clear between Environmental Quality Act and the Local Government Act, 1976 and the Street, Drainage and Buildings Act, 1974. The provisions in the latter Acts, which are made for adoption and used by the local authorities, enable the local authorities to take legal action and polluters within the local authority areas. There is also overlap between Environmental Quality Act and the Natural Resources and Environmental Quality Act and the Natural Resources and Environment Ordinance, 1993. The overlap is clearly available after the Natural Resources and Environment Board of Sarawak took over the review and approval of EIA reports for prescribed activities related to natural resources and environment in Sarawak. Such a move certainly leads one to think that there exist loopholes in the environmental management mechanisms in this country, especially in relation to the legislation.

CONCLUSION

A major challenge facing the Malaysian government is to provide a stable environment without hampering the industrial progress of the country. An effective way of addressing the environmental degradation is for the government to enlist the assistance of the both the public and private sectors. Punitive regulations alone will be less effective than when combined with collaboration with the public sectors actively setting standards and guidelines, monitoring itself, and establishing fair and efficient enforcement systems. The paper highlights the severity of environmental issues in a developing country such as Malaysia. It would be a costly mistake if governments ignore the impact of environmental degradation on economic sustainability. Extensive research is needed to device alternative tools to deal with the varying problems of protecting and enhancing the environment. Naturally, to safeguard the interest of current and future generations, it is crucial that every effort should be made to protect the environment while pursuing a strategy of sustainable development. For all practical purposes, it is the environmental degradation associated with environmental externalities or spillover effects of the use or
misuse of environmental resources which requires all pervasive and effective public policy intervention. Corrective measures are required for environmental upgradation, while preventive measures are needed for environmental protection.

An agenda to protect the environment spelt out by the National Economic Recovery Plan of Malaysia (1998) can be a useful starting point in evolving an environmental policy. A comprehensive taxation policy should be pragmatic with recognition that environmental issues are cross-sectoral and complex. Within the next two decades, corporate leaders as well as policy makers would, perhaps, be unable to say whether or not a particular industry is ‘sustainable’ or not, but they would become increasingly sophisticated in terms of their ability to assess whether or not it is moving in the right direction. Unlike financial reporting where reporting developments are often resisted, environmental taxation remains an active area of experimentation and innovation, particularly in the context of sustainable development. In the final analysis, the success of remedial measures initiated by the government to compensate for the depreciation of environmental assets does not depend on isolated factors, but on a complex combination of circumstances. While full voluntary effort by each and every citizen to preserve the environment remains an elusive dream of every government, it is nevertheless prudent to take every practical measure to arrest its decline.

Largest oil spills
Main article: List of oil spills

<table>
<thead>
<tr>
<th>Spill / Tanker</th>
<th>Location</th>
<th>Date</th>
<th>*Tons of crude oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulf War oil spill</td>
<td>Persian Gulf</td>
<td>January 21, 1991</td>
<td>1,360,000–113,293,207 (36 billion gallons)</td>
</tr>
<tr>
<td>Ixtoc I oil well</td>
<td>Gulf of Mexico</td>
<td>June 3, 1979–March 23, 1980</td>
<td>454,000–480,000</td>
</tr>
<tr>
<td>Atlantic Empress / Aegian Captain</td>
<td>Trinidad and Tobago</td>
<td>July 19, 1979</td>
<td>287,000</td>
</tr>
<tr>
<td>Fergana Valley</td>
<td>Uzbekistan</td>
<td>March 2, 1992</td>
<td>285,000</td>
</tr>
<tr>
<td>Nowruz oil field</td>
<td>Persian Gulf</td>
<td>February 1983</td>
<td>260,000</td>
</tr>
<tr>
<td>ABT Summer</td>
<td>700 nautical miles (1,300 km) off Angola</td>
<td>1991</td>
<td>260,000</td>
</tr>
<tr>
<td>Castillo de Bellver</td>
<td>Saldanha Bay, South Africa</td>
<td>August 6, 1983</td>
<td>252,000</td>
</tr>
<tr>
<td>Amoco Cadiz</td>
<td>Brittany, France</td>
<td>March 16, 1978</td>
<td>223,000</td>
</tr>
<tr>
<td>Amoco Haven tanker disaster</td>
<td>Mediterranean Sea near Genoa, Italy</td>
<td>1991</td>
<td>144,000</td>
</tr>
<tr>
<td>Odyssey</td>
<td>700 nautical miles (1,300 km) off Nova Scotia, Canada</td>
<td>1988</td>
<td>132,000</td>
</tr>
<tr>
<td>Sea Star</td>
<td>Gulf of Oman</td>
<td>December 19, 1972</td>
<td>115,000</td>
</tr>
<tr>
<td>Torrey Canyon</td>
<td>Scilly Isles, UK</td>
<td>March 18, 1967</td>
<td>80,000–119,000</td>
</tr>
<tr>
<td>Irenes Serenade</td>
<td>Navarino Bay, Greece</td>
<td>1980</td>
<td>100,000</td>
</tr>
<tr>
<td>Urquiola</td>
<td>A Coruña, Spain</td>
<td>May 12, 1976</td>
<td>100,000</td>
</tr>
</tbody>
</table>

* One tonne of crude oil is roughly equal to 308 US gallons, or 7.33 barrels.
The oil spill that occurred in late April 2010, in the Gulf of Mexico, is predicted to be the largest oil spill in US history, larger than the 1989 spill from Exxon Valdez that spilled 11 million gallons of oil into an ecologically sensitive area of the Prince William Sound. One difference between the spills is that, in 1989, the cause was an oil tanker which holds a finite amount of oil; this spill is tapped to an underwater oil well which may continue to leak for up to 3 months. It is estimated that the well had leaked 5,000 barrels of oil into the Gulf each day. See: Deepwater Horizon oil spill.

REFERENCES


