Forest management in Malaysia: The strategies undertaken towards achieving Sustainable Development Goals

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Abstract. The forests of Malaysia have been systematically managed with the establishment of the Forestry Department in 1901, whereby ecologically and environmentally sound forest conservation and management practices have been developed to ensure forest renewal and sustained yield. The evolution of forest management studies was documented with the chronological of attempts by Malaysia toward achieving the aim to become a developed country. Forest resources development is one of the terms used in forest development planning and forest development resource. Similarly, it always involves the effects and impact toward the surroundings, especially regarding human life. The objective of this studies is to identify forest management strategies undertaken by Malaysia. This research come out with the two questions namely what are the strategies of forest management efforts in Malaysia? and what are the trends of forest policy in Malaysia? Economic development is more stressed on the circle of life. Malaysia’s development progression shows clear evidences that the country had positioned itself toward achieving and realising to become a developed and industrialised nation by the year 2020. However, the last decade or so showed that Malaysia continues to be threatened by increasing diversities, frequencies, and intensities of forest degradation, and their threat on human quality of life issues. The strategies for forest and implementation have been gradually implemented at the national level, and lately at the regional and global scales. Forestry Department in Malaysia also involved in REDD+ strategies to determine the level and extent of national level mitigation actions to be taken, ensures at least 50% of national land mass is forested and intact, ensures water supply for both domestic and industrial use, ensures soil fertility for crop production and for community adaptation to climate change. The results were also clear in showing the forest degradation issues trend changes through time. The approach of forest management efforts is parallel with forest degradation issues for each phase of development.

1. Introduction
The forests of Malaysia have been systematically managed with the establishment of the Forestry Department in 1901, whereby ecologically and environmentally sound forest conservation and management practices have been developed to ensure forest renewal and sustained yield. In the early 1920s, forest management by Departmental Regeneration Improvement Felling (DRIF) was aimed solely at improving the existing stock through removal of inferior species [1]. However, with rising demand for firewood and poles from the mining industries in the 1930s, Commercial Regeneration Improvement Felling (CRIF) was introduced [2]. A few years after the Pacific War, Regeneration Improving Felling (RIF) was discontinued because of the increased demand for raw materials. This led to the formulation of the Malayan Uniform System (MUS) in 1948, which consists of removing the
mature crop in one single felling of all trees down 45cm diameter at breast high (DBH) for all species [3]. The evolution of forest management studies was documented with the chronological of attempts by Malaysia toward achieving the aim to become a developed country. Forest resources development is one of the terms used in forest development planning and forest development resource. Similarly, it always involves the effects and impact toward the surroundings, especially regarding human life. Economic development is more stressed on the circle of life. Even though Malaysia aims toward becoming a developed country, at the same time, the most important concern is about the quality of life while achieving better economic status levels.

Malaysia as a developing country needs resources to initiate and sustain its developmental activities. Forest resources constitute a major component in the country’s development as it provides the supply of raw materials which provides the basic resource that propagates many types of economic activities, including agriculture, mining, lumbering, energy, and tourism [4]. Economic development affects the process-response regimes of the environment and three overarching characteristics could be observed, which includes an increase or decrease in the frequencies and intensities of processes, the creation of new processes, and the derivation of wastes. Environmental quality can be determined by measuring the change in environmental quality parameters that usually characterises the major forest subsystems of air, water, land, and ecology [5].

Malaysia’s development progression shows clear evidences that the country had positioned itself toward achieving and realising to become a developed and industrialised nation by the year 2020. However, the last decade or so showed that Malaysia continues to be threatened by increasing diversities, frequencies, and intensities of forest degradation, and their threat on human quality of life issues. The strategies for forest and implementation have been gradually implemented at the national level, and lately at the regional and global scales. This study would be able to show the management efforts of forest development undertaken by Malaysia through the lens of the analysis which would give an account of the effort Malaysia has taken to address forest degradation and its impact on human quality of life at the national, regional, and global scales. The research objective of this studies is to identify forest management strategies undertaken by Malaysia. The research question of this studies is: (1) What are the strategies of forest management efforts in Malaysia? (2) What are the trends of forest policy in Malaysia?

2. Material and method
The research objective was explored using two research questions. For research question one, data were obtained from interview sessions and journal articles as sources that gave primary and secondary data types. Then, the data extraction techniques were document analysis and interviewed data review. Meanwhile for research question two, data were obtained through interviews, journal articles, and government released reports. The data types also involved both primary and secondary data. Data extraction techniques involved using interview data review and document analysis. Next, the analysis technique was transcribing the transcript obtained by interview and analysing the transcript to uncover the valuable information.

Based on the explanation above for the data acquisition and data analysis, the data sources yielded both primary and secondary data. For primary data sources, the data were gathered during interview sessions. Only 10 respondents were selected based on their expertise in forest development, which involved two academicians, two researchers, two project implementers, two policy makers, and two from the public. All respondents were Malaysian citizens with vast experience in their respective fields for 10 years or more. The experts in selected fields were lacking in numbers in Malaysia. Also, there were obstacles in getting the exact time for performing the interview sessions. The selected respondents were also identified based on their good experience and commitment to their respective fields.

Detailed research was done before selecting the most suitable respondents. The 10 respondents were interviewed in different sessions and at different places. The times allocated for these interview sessions
were between one to two hours. The respondents were required to answer each of the questions which were asked to them. The conversations were recorded using a recorder. There was no time limit for the respondent to answer the questions. The respondents needed to answer the questions verbally and needed to completely answer the list of questions. Detailed profile of respondents is attached in the appendix of this dissertation.

Meanwhile, the secondary data sources were the government reports, journal articles, newspaper cuttings, and books. The data from government reports were gathered from the first Malaysia Plan until the present one. Additionally, any reports related to the Malaysia Development Plan were obtained from University of Malaya (UM) library, National University of Malaysia (UKM) library, LESTARI UKM, Northern University of Malaysia (UUM) library, National library, University Putra Malaysia (UPM) library, Malaysia Archive, Archive in London, SIRIM, Economic Planning Unit (EPU), Department of Statistics, Department of Environment (DOE), Federal Department of Town and Country Planning, and Department of Agriculture. Data extraction using document analysis techniques was used on these reports. These documents were collected and sorted into different categories.

3. Result and Discussion

3.1 Development Planning Strategies in Malaysia

The section discusses the strategic development planning in Malaysia. The information about the strategies was collected from government reports and Malaysia Plan (1st MP – 10th MP) reports. Each piece of information associated with these development planning strategies in Malaysia was sorted and arranged in a single table. Table 1. below contain the strategies through development planning which are National Economic Plan (NEP), National Development Plan (NDP), and National Vision Planning (NVP) [6]. Development plan strategies were implemented in earnest since the NEP (1971-1990) development phase. Table 1. below summarises the strategies in terms of “Forest Development”. The arrangement of the table is more fixed about the main component of environment which is land, air, water and ecology. Each of the components describes about the directly associated development with those components. Development is a big issue and covers several of topics. The forest development subject is also one of the large matters to discuss. Nevertheless, this study does not cover all the information and paid notice toward some matters due to some obstacles in fulfilling all the strategies in development planning in Malaysia. Some data might be lacking because of the information gathered in not in great details and unclear in terms of the explanation.

Based on Table 1, the findings are more focus on development strategies for forest management. The results showed the condition of each component during the development occurring in the respective areas. Besides, the notice about the effects happened while the development and the mechanism were proposed and implemented by government to overcome environmental problems. The information stated was based on the big environmental issues that frequently happened in those areas. The summary of Table 1 below is for management of forest in Malaysia. There are management strategies for forest which is covering all the strategies deals with environment in Malaysia. More deals are about agriculture, sewerage and domestic, industrialisation, animal waste, disposal of toxic and hazardous waste and solid waste disposal, agriculture, forestry itself, nature conservation, nature and natural resources conservation, conservation of natural habitats, and resources.

| Development | Forests Management |
|-------------|-------------------|
| National Economic Policy (NEP) | • Pollution is most common in agricultural land, where increased efforts to raise productivity are the principal source of pollution. Pollutants in these cases include the whole range of fertilizers, pesticides, herbicides and the gaseous by-products of industrial processes.  
• Mining, new agricultural settlement, replanting of existing lands, logging and urban and general infrastructure development  
• A large proportion of the populations live in valleys and river and river basins which are flood prone. |
Development

- Land use. Soil conservation. The control of runoffs from newly developed land for agriculture, housing, industry, roads, highways, and other infrastructural development was undertaken more on ad hoc basis.

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- These industries had to dispose of the accumulating toxic and hazardous wastes captured in settling tanks in the treatment of highly polluting effluent.

- Land use. More than 35 per cent of the Land in Peninsular Malaysia has been developed for agriculture, mining, urbanization and infrastructure.

- Industrialisation in Malaysia has been achieved so far without serious and far-reaching environmental problems.

- Heavy industries including chemical plants, thermal power stations and petroleum refineries are so far not concentrated in any one area with the result that they have not been a major source of pollution.

- Dust and fumes from quarries and cement plants, the incineration of waste and fumes from traffic in dense urban areas are probably the most serious of air pollution. They sometimes reach levels hazardous to health.

- Treatment of polluting effluent and the recovery of other waste matters as energy in the form of biogas and electricity as well as animal feed.

- It caused by spoliation of land by tin mining, by increasing deforestation for agricultural expansion, by careless land development, by increasing industrial sewerage and domestic wastes, by growing use of agricultural fertilizers and pesticides and by increasing use of estuarine and coastal waters for transport and recreation

- Sewerage and domestic waste waters from populated areas, effluent discharges from agro-industries, particularly palm oil and rubber processing factories, industrial effluents, silt from mining ponds, land clearing and urban and highway development, and the use of agricultural chemicals, including both pesticides and fertilizers.

- In coastal areas, port activities and rapidly expanding waterfront industries, including the establishment of major naval facilities and shipyards, are potential sources of pollution which may significantly affect inshore fisheries.

- Water pollution control. Agro based industries. Both the palm oil and rubber processing industries continued to be regulated under the respective Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations, 1977 and the Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations, 1978.

- In both palm oil and rubber processing industries, the concurrent R&D efforts by the private sector played a significant part in evolving the indigenous development of treatment technology for palm oil wastes and rubber effluents.

- Mining. The department of mines took further steps to control the discharge and runoffs from tin-mining areas, largely through the enforcement of the various state mining enactments and rules.

- Solid waste disposal. There was also a significant increase in the percentage of wastes being disposed of by incineration rather than by open burning

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Development | Forests Management
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- The loss of genetic materials contained in the thousands of species of organisms living in the forests which may be of potential importance for plant breeding and in control of pests and disease in agriculture and forestry also requires attention.  
- The preservation of representative samples of Malaysia’s natural forest ecosystems with its constituent flora and fauna is therefore particularly important.  
- Nature conservation. Terrestrial parks and reserves. The preservation of representative areas of natural forest and marine ecosystems with its constituent flora and fauna continued to be accorded due important.  

National Development Policy (NDP)  
- Industrial and while land clearing, unregulated development, mining and logging activities in the catchment areas were responsible for sedimentation and siltation problems.  
- Sewage contamination mainly from both domestic and animal wastes, as indicated by faecal coliform, was found in Pahang, Perak, Pulau Pinang and Sarawak.  
- Land Resources. Negative impact of land developments such as erosion and landslips, the Town and Country Planning Act, 1976 was amended in 1994.  
- The screening and approval of development plans at the State Level were given emphasis through the setting up of State Planning Committees which provided a channel for the coordination and proper management of natural resources.  
- While, the agricultural sector is relatively lower compared with other sectors of the economy, the development of agriculture will continue to be important in the nation’s development.  
- The open burning of industrial wastes, particularly in wood based and rubber-based factories, remains a major problem. The open burning of wastes at local authority dumping grounds was also found to be a problem.  
- Pollution from oil spills. During the Fifth Malaysia Plan period, more sightings of oil spills were reported from oil platforms.  
- The meteorological stations recorded an increase in atmospheric acidification.  
- Trans-boundary atmospheric pollution contributed to serious haze problem in 1991, 1992 and 1994.  
- Black smoke emission from diesel-powered vehicles.  
- Open burning of waste, effluent discharges, illegal disposal of toxic and hazardous waste and marine pollution.  
- A number of river estuaries in the States of Johor, Kedah, Kelantan, Perak, Pulau Pinang, Selangor and Terengganu were also contaminated. This was due to high population density, unorganized disposal of human wastes in squatter areas, increased urbanization, the prevalence of dense settlements along the coast and the lack of adequate facilities for sewage treatment.  
- Water Pollution. Industrial sources of water pollution continued to be concentrated on the west coast of Peninsular Malaysia, with Johor, Pulau Pinang and Selangor accounting for almost 50 per cent.  
- Pollution from non-industrial waste, the most significant contributor of organic pollution in inland waters, showed little improvement during the Fifth Plan period. Sewage remains the main contributor to organic pollution accounting for three times the combined load discharged from industries and animal husbandry.  
- Pollution load from sewage continued to increase due to greater urbanization and inadequate sewerage facilities as only 5 per cent of the urban population benefited from centralized sewerage facilities  
- Sewage contributed 65 per cent of water pollution in terms of BOD, while agriculture and industry accounted for 27 per cent and 8.0 per cent respectively.  
- Highland development and land clearing activities also resulted in an increase in suspended solids and changes in the morphological characteristics of rivers. These activities contributed to increased flooding as well as pollution of coastal and marine areas.  
- Hazardous Substances and Waste  
- The main sources of river water pollution were from the discharge of domestic sewage, manufacturing, pig farming, agricultural production and land clearing and earthworks.
### Development

| Forests Management |
|---------------------|
| - Nature and natural resources conservation will be given priority through a responsible and well-balanced exploitation of natural resources which will safeguard the requirement of future generations. |
| - Efforts will be taken to ensure effective and well-coordinated enforcement of such strategies and programmes by further upgrading the regulatory machinery at the States and Local Government levels. |

### National Vision Policy (NVP)

| - The agriculture sector is targeted to be an important source of growth. Its growth will mainly be derived from the significant increase in industrial crops, food production and contribution from new activities. |
| - Land utilization will be intensified through the adoption of agro-forestry approach, which integrates agriculture and forestry activities and through the wider practice of crop-mix. |
| - During this time period, will include improving air and water quality, efficient management of solid waste and toxic and industrial waste, developing a healthy urban environment and the conservation of natural habitats and resources. |
| - Implementation of Criteria, Indicators and Activities of Forest Management |
| - Multi-Storyed Forest Management in Malaysia Phase II |
| - Operational Studies on Silvicultural Treatments Phase III |
| - Operational Studies on Growth and Yield Phase III |
| - Study on Forest Road Construction in RIL Methodology |
| - Forest Rehabilitation |
| - Assessment of Values of Forest Products and Services in Peninsular Malaysia |
| - Seeding and Tree Breeding Project |
| - Agro-Forestry |
| - Conservation of Biological Diversity |
| - Forest Management Plan for the Pahang Peat Swamp Forest Reserve |
| - Forest Management Station |
| - Assessment of Treatment Operations of Residual Stands for second cut |
| - Reforestation and Forest Conservation |
| - Formulation of Guidelines for the Management of Kapur, Seraya and Meranti Built Forests |
| - Forestry Prevention and Control |
| - Economic Assessment of Biological Diversity in Peninsular Malaysia |
| - Recreational Forest Phase II |
| - Management and Development of Forest State Parks |
| - Establishment and Development of Water Catchment Forest in Permanent Reserved Forests |
| - Establishment and Development of Medicinal Plants and Forest Herbs |
| - Forest Road Maintenance |
| - Pilot Project on Central Forest Spine |
| - Pilot Project on Forest Management using Radio Frequency Identification |
| - Planting of Mangrove and Other Suitable Tree Species in Coastal Region |
| - Rattan Planting Plan |
| - Project on Bamboo Planting |
| - Renovation of Forestry Training Unit Complex |
| - Forest Harvesting Training Centre Phase II |
| - Management of Worker’s Occupational safety and Health in the Forestry Sector |
| - Development of Commercial Forest Plantation |
| - Maintenance and Monitoring of Rubber Timber Plantation Phase II |
| - National and State Networking for Seedings and Planting Materials Acquisitions |
| - Monitoring of Forest Plantation growth and yield permanent sample plots |
3.2 Trends of Forest Policy in Malaysia

Forestry practices have become more environmentally friendly and at the same time, more interactive with the general public and the community. Malaysia formed in 1963 and consists of three regions, namely, Peninsular Malaysia (composed of 11 Federated Malay States which achieved independence from the British government in 1957), Sarawak and Sabah. Since then, three separate bodies have determined Malaysia’s forest policy namely Peninsular Malaysia Forestry Department in Kuala Lumpur, the Forestry Department Sabah and the Forestry Department Sarawak [7]. Besides, according Oon et.al (2002), Under Article 74 (2) of the Malaysian Constitution, forestry is a state matter, and as such, the thirteen state governments have complete jurisdiction over their forest resources. Each state is empowered to enact laws on forestry and to formulate forestry policy independently. The federal government only provides technical advice and assistance on forest management, training, the conduct of research, and in the maintenance of experimental and demonstration stations. Nonetheless, a close relationship between the states and federal government is essential regarding all land and forestry issues.

The policy was begun with the National Forest Policy. In Peninsular Malaysia an Interim Forestry Policy was first formulated in 1952, and officially adopted as the National Forestry Policy (NFP) in 1978. In Sarawak, the Sarawak Forest Ordinance was 1954. Provides the necessary legal framework, while in Sabah, the Sabah Forest Enactment 1968 provides the legal backing to ensure the implementation of state forest policy. Article 74 (2) of Federal Constitution related with List III in the Ninth Schedule of Federal Constitution provides that forest is under the jurisdiction of the state Under this provision, the Legislature of a state may make Laws and regulation for the administration and management of forestry matters in the state. Federal Government only provides advice and technical assistance to the states, maintenance of trial stations and demonstration stations, training and research. According to Article 91(5) of Federal Constitution the Function of the National Land Council (NLC) to formulate from time to time, a national policy for the promotion and control of the utilisation of land throughout the Federation for mining, agriculture, forestry or any other purpose and the administration of any laws relating there for and the Federal and State Governments shall follow the policy so formulated.

Report by Department of Forestry stated, in 1977, the National Forestry Policy (NFP) was approved by the NFC and later endorsed by the NLC on 19 April 1978. This policy was revised on November 1992 to take cognisance of the concern expressed by the world community on the importance of biological diversity conservation and the sustainable utilisation of genetic resources, as well as the rule of local communities in forest development. The acceptances of the Policy are a major breakthrough in strengthening the institutional base and enhance the cooperation and understanding between the Federal and State Governments in the field of forestry sector development.

National Forestry Policy (NFP) for Peninsular Malaysia was formulated and approved for implementation in 1978. The NFP is implemented through the National Forestry Act of 1984. Key aspects of NFP are:

- To dedicate areas of forest land as Permanent Forest Estate (PFE);
- To manage the PFE with the objective of maximizing social, economic and environmental benefits in accordance with the principles of sound forest management;
- To pursue a programme of forest development through regeneration and rehabilitation operations;
  - To ensure thorough and efficient utilization of forest resources, not included in the PFE;
- To promote sound harvesting techniques and utilization of all forms of forest produce and to
  stimulate the development of wood-based industries;
- and To undertake and support a comprehensive programme of forestry training.

The Policy then followed with the National Policy on Biological Diversity. In 1998, the National Policy on Biodiversity [8] was formulated to protect Malaysia’s rich flora and fauna for the benefit of present and future generations. It aims to set the direction for Malaysia to implement strategies, action plans and programmes on the conservation of biological diversity and the sustainable utilisation of biological resources. Conservation and sustainable utilisation of Malaysia’s biological diversity are based on the following principles and considerations:

a) The conservation ethic, including the inherent right to existence of all living forms, which is deeply rooted in the religious and cultural values of all Malaysians;
b) Biological diversity is a national heritage that must be sustainably managed and wisely utilized today and conserved for future generations;
c) Biological resources are natural capital and their conservation is an investment that will yield benefits locally, nationally and globally for present and future generations;
d) The benefits derived from the sustainable management of biological diversity will accrue, directly or indirectly, throughout every sector of society;
e) The sustainable management of biological diversity is the responsibility of all sectors of society;
f) It is the duty of the 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;
g) 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;
h) Issues in biological diversity transcend national boundaries and Malaysia must continue to exercise a proactive and constructive role in international activities;
i) 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 are vital for fair and equitable sharing of biological resources, as well as to ensure access to and transfer of relevant technology;
j) Public awareness and education are essential for ensuring the conservation of biological diversity and the sustainable utilisation of its components; and
k) In the utilization of biological diversity, including the development of biotechnology, the principles and practice of biosafety should be adhered to

The Policies related are Third National Agricultural Policy (1998-2010), Second Industrial Master Plan (1996 – 2005), National Eco-Tourism Plan, National Biodiversity Policy and National Policy on the Environment. There are others legislation relating to forestry. The following is a list of other legislation which is of relevance to the forestry sector:

- Water Enactment Act 1935;
- National Land Code 1965; Penal Code (Revised 1997) (Act 574);
- Criminal Procedure Code (Revised 1999) (Act 593);
- Evidence Act 1950 (Amendment 1993);
- Financial Procedure Act 1967 (Amendment 1993);
- Street, Drainage and Building Act 1974
- Local Government Act 1976
- Town and Country Planning Act 1976
- National Park Act 1980 (Amendment 1983)
- Biosafety Act 2007
- International Trade in Endangered Species Act 2008
- National Forestry Act 1984 (Act 313)
According annual reports by department of forestry, the Forestry Department has always been actively undertaking collaborative project in forestry through international, regional and bilateral arrangement with various funding agencies. These projects are initiatives in order to enhance the skills and capabilities of foresters in forest resources planning, development and management, as well as the transfer of appropriate technology in forestry. At the Regional or ASEAN level, technical cooperation in tropical forestry involved ASEAN Common Forestry Policy, Technical Co-operation, Forestry Institution, Co-operation in Intra-ASEAN Timber Trade and ASEAN Common Stand on International Issues of Forestry. While, at the International level, organisations such as the FAO, UNDP, World Bank, and the International Tropical Timber Organization (ITTO) have been declared to provide assistance towards forestry development in the country. Malaysia is an active member of ITTO and subscribes to the ITTO year 2000 Objectives.

Malaysia also fully subscribes to the statements of Principles on Forests and the various forestry programs under Agenda 21 adopted at the United Nations Conference on Environment and Development (UNCED) held in Rio De Janeiro, Brazil in June 1992, as well as the Convention on Biological Diversity and the Framework Convention on Climate Change which Malaysia has ratified on 24 June and 13 July 1994 respectively. Malaysia has and will continue to participate actively in the post-UNCED discussions on forest and forest-related matters. In this regard, the country has participated effectively in the Intergovernmental Panel on Forests (IPF) and Intergovernmental Forum on Forests (IFF) and will continue to participate actively in the recently established United Nations Forum on Forests (UNFF) which has been established for the duration 2001-2005.

For bilateral cooperation in projects of the international level is being implemented by the FDPM are as follows:

| No. | Project Name                                                                 | Countries              |
|-----|------------------------------------------------------------------------------|------------------------|
| 1.  | Sustainable Forest Management and Conservation Project in Peninsular Malaysia | Malaysia/German (GTZ) |
| 2.  | Management and Conservation Sustainable Use of Peat Swamp Forests and Associated Water Regimes in Malaysia | Malaysia/ DANIDA       |
| 3.  | Sharing of Information and Experience on Private Sector Success Stories in Sustainable Forest Management | Malaysia/ITTO          |
| 4.  | Sustainable Forest Management and Development Phase II                       | Malaysia/ITTO          |

To achieve Sustainable Forest Management, Malaysia has committed to maintain at least 50% of her land area under forest and tree cover in perpetuity as pledged under the 1992 Rio Earth Summit. This is attained through the protection of forests and the application of Sustainable Forest Management (SFM) practices. According to Malaysia’s Second National Communication to the UNFCCC, 56% of the country was covered in forests in 2000 and 55% remained covered by 2007 (NRE, 2011) and forest cover in 2012 is estimated to be closer to 53%. These figures include permanent reserve forests, state land forests, national parks and wildlife and bird sanctuaries (NRE, 2011). Out of the total forested area...
in Malaysia equalling 18.3 million hectares, Sarawak has 8.07 million hectares, Sabah has 4.36 million hectares and Peninsular Malaysia has 5.87 million hectares (NRE, 2011). Statistics from the Food and Agricultural Organisation of the United Nations, reports that national forest and tree cover in 2010 equals 62% of the total land area [9].

Forestry Department in Malaysia also involved in Reducing Emission from Deforestation and forest Degradation (REDD+) strategies to determine the level and extent of national level mitigation actions to be taken, ensures at least 50% of national land mass is forested and intact, ensures water supply for both domestic and industrial use, ensures soil fertility for crop production and for community adaptation to climate change. REDD is addressing the emissions reduction. The ‘+’ is addresses the carbon sequestration or removal through conservation, sustainable management of forests and enhancement of forest carbon stocks. Section 10, NFA 1984, allows PRF be classified into any of the following twelve (12) functional classes for effective contribution to livelihood; and to further promote sustainable forest management and taking into account the multiple roles or uses of forest namely:

| No. | Functional Classes                                                                 |
|-----|-----------------------------------------------------------------------------------|
| 1   | Timber Production Forest under sustained yield                                     |
| 2   | Soil Protection Forest                                                             |
| 3   | Soil Reclamation Forest                                                            |
| 4   | Flood Control Forest                                                               |
| 5   | Water Catchment Forest                                                             |
| 6   | Forest Sanctuary for Wildlife                                                      |
| 7   | Virgin Jungle Reserves                                                             |
| 8   | Amenity Forest                                                                     |
| 9   | Education Forest                                                                  |
| 10  | Research Forest                                                                   |
| 11  | Forest for Federal purposes                                                        |
| 12  | Forest State Parks                                                                 |

For REDD+ Implementation strategies with The National Steering Committee on REDD+, will provide guidance and recommendation on the REDD+ implementation in Malaysia. Besides, The National Technical Committee on REDD+ will provide guidance on methodology and technical issues. Then, REDD+ activities will be implemented by the respective State Forestry Departments guided by the National REDD+ Strategy and State’s Development Plan and Policies or State REDD+ Policy and the result-based actions will be accounted at national level.

4. Conclusion

Forest management efforts are one of the important matters that show the government’s perseverance toward decreasing the cases of forest degradation issues in Malaysia. These efforts are already there but the arrangement of the planned attempt is not very specific with which the exact segment. The question of categorization of forest management efforts in Malaysia can be answered by data obtained from experts and also some of the reports by the Ministry and NGOs that deal with forest development concerns. The findings also identified the relationship between each of the categorization of forest management efforts and the forest degradation issues. Based on these results, there exist relations between categorisations and the forest degradation issues. The results had traced the relations from the phases of Pre-NEP, NEP, NDP, and NVP as well. The results were also clear in showing the forest degradation issues trend changes through time. The approach of forest management efforts is parallel with forest degradation issues for each phase of development. Respondents are experts in this field, so they would know what and how to address forest degradation issues with the best approaches. Forest management effort is also known as the mechanism that should be integrated into the management system.
The approaches are based on the total development in Malaysia for each phase of development [10] stated that excellent planning would bring about excellent implementation and operations into the projects. Implementation is the part when the formulated policies are put into action and integrated within the project lifecycle. These include the implementation of rules and regulations which have been stated in the policies. After the operation is done, then the next step is carrying out the checking and correction to evaluate whether the arrangement has passed or failed. Checking is the important step for seeking out weaknesses. When weaknesses are detected, then the corrective actions should be applied as soon as possible to avoid any problems. Checking action is similar to monitoring and such an understanding of sustainable forest worldviews could assist the management to educate internal and external stakeholders on management zones and resource use; and assist in conflict resolution amongst users while developing effective policies, programmes, and implementation strategies.

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