

A Study on Sustainable Forest Management in Malaysia

Theme: Emerging Topics and Lessons Learned on Environmental Auditing

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Introduction/Background

Malaysia consists of 32.44 million hectares of land areas, only 14.45 million hectares have been declared as a permanent reserve forest. Forest is used for supplying fresh water, oxygen, stabilizing land, buffer zone and vegetation for flora and fauna. Instead of that, trees are harvested for woods, herbs and medicine that contribute to economic sector. In contrary, there are dilemmas in meeting the demand for forests resources such as woods, human development, agriculture and infrastructure whereas at the same time protecting it. Sustainable Forest Management (SFM) comes as an approach where it is aimed at achieving management objectives so as to obtained sustainable production of the expected forests products without reducing the inherent values of the forest and future mass productivity as well as its impact on the physical and social environment.

Forestry office has place a lot of effort towards sustaining forest, yet there are other party that exploited and destroyed forests for their own needs that give impacts to the environment. Nevertheless, forestry office's approach involved restoration, rehabilitation and reclamation in order to achieve the sustainable management. There are laws and regulation pertaining to the safeguarding the forest such as National Forestry Act, 1984 (amended 1993), Wood-based Industries Act, 1984, Water Enactment, 1935, Land Conservation Act, 1974, Protection of Wildlife Act, 1972 and National Parks Act, 1980

Objective of the Study

The audit objective is to assess and report the efficiency and effectiveness of forest and its environmental impacts.

Audit Scope and Methodology

The study is carried on forest management of permanent reserved forest (including production forest and protection forest) of 10 states. Files, records and relevant documents for the period 2006 to 2008 were scrutinized and reviewed. Observation, site visit, interview and distribution of questionnaires were also conducted in order to collect the information. In the other hand, aerial view from the helicopter was carried out to capture the geographical location of forest.

The audit was conducted based on the Environmental Audit Guidelines as well as the performance audit guidelines which includes preliminary study on the subject matter, preparation of audit planning memorandum, entrance conference, exit conference and submission of final audit report to the auditee.

Audit findings

Below are the environment issues and the extent of the impacted areas.

i. Flash and mud flood

Exploitation of forests for certain activities has caused accelerated land erosion and increases the rates of denudation which lead to sedimentation. It makes the river become shallower and contribute to flood. It is a result of trespassing in the river bank, logging activities, deepen river activities and quarry activities.

ii. Water pollution

Activities such as logging, plantation, development of housing area, placement of telecommunication areal coverage, mining as well as agro forestry have polluted the water. Water especially from the river is the major sources for drinking water.

Logging activities has caused the river water become muddy which affected the aquatic species especially fish. It can be proved as mud is found in fishes' gill. Despite of that, test such as Total Suspended Solid (TSS) test, Dissolved Oxygen (DO) test and Turbidity test have proved it.

iii. Air pollution

The dust from the explosion in quarry polluted the air. The trees especially the leaves were covered by the dust. This will distract the process of photosynthesis as the leaves cannot decompose carbon dioxide into oxygen that is needed by all living things. Nevertheless, the land that have been left after have been used for quarry will be dry as the top soil will be harden and cannot be used for replanting the trees.

Open burning in peat soil areas will lead to the air pollution too. Water table reduction contributed to it because some parties had built farm near the peat soil areas. Furthermore drainage had been built so that they can get the water from the peat soil areas for their farm as peat soil areas contain high level of water. For example, in one of the region, water table has drop significantly during the dry periods to more than 2-3 meters below the peat surface. This makes the areas very vulnerable to fire especially the ones that deliberately done by farmers.

iv. Effect on flora and fauna

Clear felling and burning have a cumulative impact on flora and fauna. There are cases the forest areas have been developed for oil palm plantation which has given impact to the population of fireflies. Local people and tourist like to visit the place to see the unique view of these fireflies which contributes to our tourism industry and economy. These species only breed in the moist areas which make it very important for the river area to be preserved in order to rehabilitate them.

Orang utan are the other species that also affected either the forests have been opened for the development, or it is hunted. Orang utan cannot be found in other states except in Malaysia and Indonesia. A rehabilitation center was developed in order to protect the species.

Impacts and Results

The Forestry Office had taken several initiatives as follows to overcome the issues raised by the National Audit Department.

- i. Active participation by the community on the Forest rehabilitation program held by the forest office
- ii. Communities were actively participating in the Forest rehabilitation program held by the forest office and the non government organization (NGO).
- iii. State national park was properly developed and protected by the all state.
- iv. Intensified research was conducted in rehabilitating fireflies and gazetment of the areas is in progress.
- v. Rehabilitation center was actively developed in order to protect the endangered species of flora and fauna.
- vi. Selective management system is encouraged in order to protect the forest. The system advocate a choice between different management options, based on the pre-harvesting inventory of stoking levels to determine diameter limits and species selection for harvesting. It discourages girdling of uncommercial trees and is considered environmental friendly.
- vii. Annual coupe system was adopted in setting the maximum trees that can be harvested per year. This is one of the approaches towards sustaining the forest.

Lessons Learned

The widespread concern is because the potential impact to the environment, economic, social and cultural effects when forest not properly managed. By conducting this study, it gives an opportunity for the audit team to explore and experience new challenges in the forest area.

Conclusion and Recommendations

Collectively, management of forest by the Forest office is not satisfying in enforcement areas which there are cases of breaking the rules and regulations as well as Forestry Act, 1984. This situation impacted the environment as stated in the above audit findings.

It is recommended that the forestry office need to increase the enforcement in the potential trespassed areas to ensure that management of forest is properly carried out and to inject more manpower resources based on the current needs. The rules and regulation for the development of forest plantation need to be revised and environmental department should set the requirement for Environmental Impact Assessment (EIA) report to be prepared for this purpose.

Action and determination of suitable areas for gazetment after Permanent Reserve Forest has been taken for that can bring a higher economic value need to be done. Communication and coordination can be increased by establishing a committee with other departments or agencies (Natural Resources Environment Department, Forest Research Institute Malaysia (FRIM) and Department Of Irrigation And Drainage) in improving forest control.