

THEME:
SAI's ROLES IN PROMOTING NATIONAL SUSTAINABLE DEVELOPMENT

TOPIC:
**MANAGEMENT OF CAMERON HIGHLANDS DEVELOPMENT ACTIVITIES AND ITS
IMPACT TO THE ENVIRONMENT**

COUNTRY PAPER PREPARED BY:
SUPREME AUDIT INSTITUTION (SAI) OF MALAYSIA
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BACKGROUND INFORMATION

Cameron Highlands with an area of 71,218 hectares and the geography of the highlands is characterised by tropical rainforest of undisturbed nature with virgin and original mountain forest streams of ecological outstanding quality. The development of Cameron Highlands is to maintain its identity as an agriculture based tourism centre and to protect environment sustainability. Sustainable environment consists of ecological system and its related components which includes people and community; physical and natural resources; characteristic and quality of location; locations and areas that contribute to the completeness and diversity of biology, natural characteristic and scientific or significant value, harmony as well as social nature and conditions, economy and culture that influence these matters.

Cameron Highlands is one of the major highland areas in Peninsular Malaysia and plays a vital role in providing water supply for this area which is categorised into residential, agriculture and forestry zoning. It is located on the Titiwangsa Range which is about 1,070 meters to 1,830 meters above sea level. Cameron Highlands is categorised as a Special Management Area (SMA) and fulfilled the criteria of environmental sensitive areas as stipulated in Policy 18 under the National Physical Plan 2001 which its management is based on the following:

- a. Level I: Contour areas more than 1,000 meters. No development or agriculture or logging activities is allowed except for natural tourism activity with low impact or research and education activities.
- b. Level II: Contour areas of 300 – 1,000 meters. No development or agriculture is allowed. Sustainable logging and natural tourism activity with low impact are allowed depending on the local community.
- c. Level III: Contour areas of 300 – 1,000 meters. Controlled development is allowed which its density is depending on the barriers criteria.

The location of Cameron Highlands in the map of Malaysia is depicted below:



IMPORTANCE OF THE TOPIC

Over the last decades, Malaysia has experienced rapid economic, social and environmental change and this process is still continuing. The pursuit of the socio-economic progress has affected the natural environment. The Government of Malaysia is highly committed to address the environmental issues which ran in parallel to the aspiration of the Millennium Development Goals which was launched in 2000. Malaysia's commitments are to ensure environmental sustainability were implemented through legislation and policies for environment and resource management, green energy, physical planning and climate change.

Cameron Highlands faced unsustainable agriculture activities that had severe impacts to the environment, wildlife, tourism, and local people's well-being which was resulted by the degradation of quality and quantity of water supplies which flow to surrounding lowlands. The silting of streams and reservoirs had caused damage through flood. These impacts had caused federal and state governments to spend huge amount of allocations to rehabilitate the damage of Cameron Highlands.

SAI of Malaysia has chosen the audit on the management of development activities in the Cameron Highlands focusing on environmental impact based on ISSAI 3000 requirements pertaining to the audit of performance of government programs. Development in the Cameron Highlands basically concentrated on agriculture, which currently caused extensive forest clearance and the excavation of valley areas. This had caused loss of biodiversity, the occurrence of landslide, soil erosion and agrochemical pollution of streams. The audit was conducted based on

There are opportunities to develop sustainable agriculture and to integrate it with tourism development and the improvement of local people's livelihoods, including indigenous peoples. Based on the 2012 Audit Report, the government has taken actions by establishing a Central Enforcement Team (CET) which is in line with National Blue Ocean Strategy for integrated enforcement activities between public and government agencies. This is because the environmental issues had become people-centric attention and high commitments to ensure that the environment of Cameron Highlands is preserved and conserved.

AUDIT OBJECTIVE

The objective of this audit which has been reported in 2012 was to ensure the management of Cameron Highlands development activities was carried out in an efficient and effective manner in consideration of the impact to the environment.

AUDIT METHODOLOGY

The audit methodology included:

- i. Examining records, files and documents;
- ii. Obtaining technical expertise from government agencies involved directly or indirectly on management development activities;
- iii. Using remote sensing technology and Geographical Information System (GIS) as well as Global Positioning System (GPS);
- iv. Visiting to project sites;
- v. Interviewing officials and staff agencies concerned; and
- vi. Obtaining secondary data from research paper done by academician and other SAIs.

RESULTS OF THE AUDIT

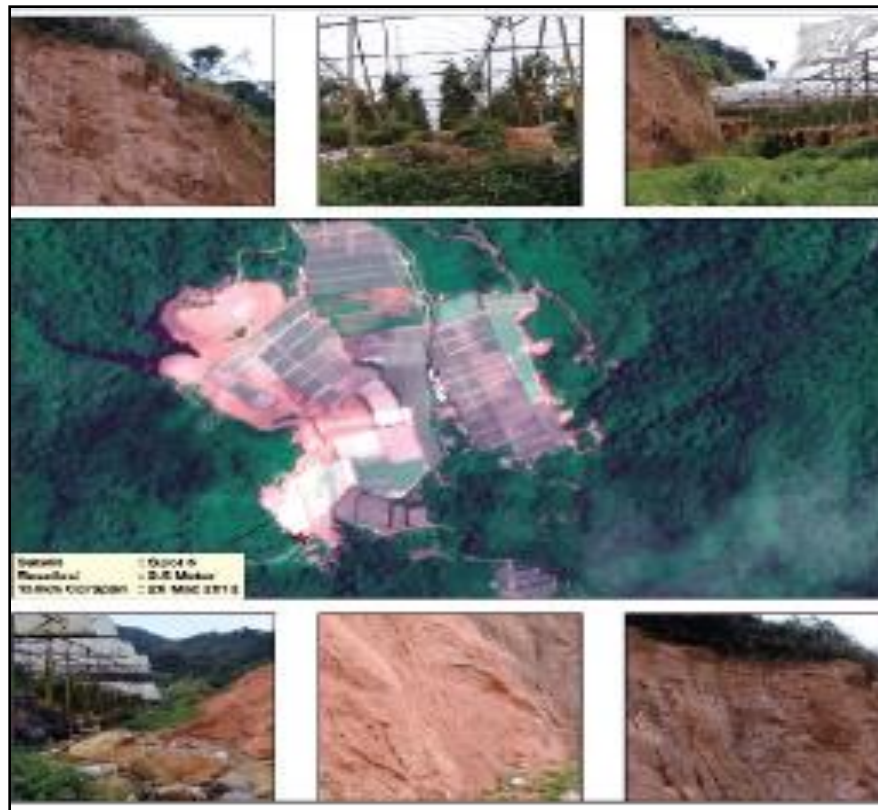
The Audit findings are follows:

1. Increase Of Land Use Area Pertaining To Agricultural Activities

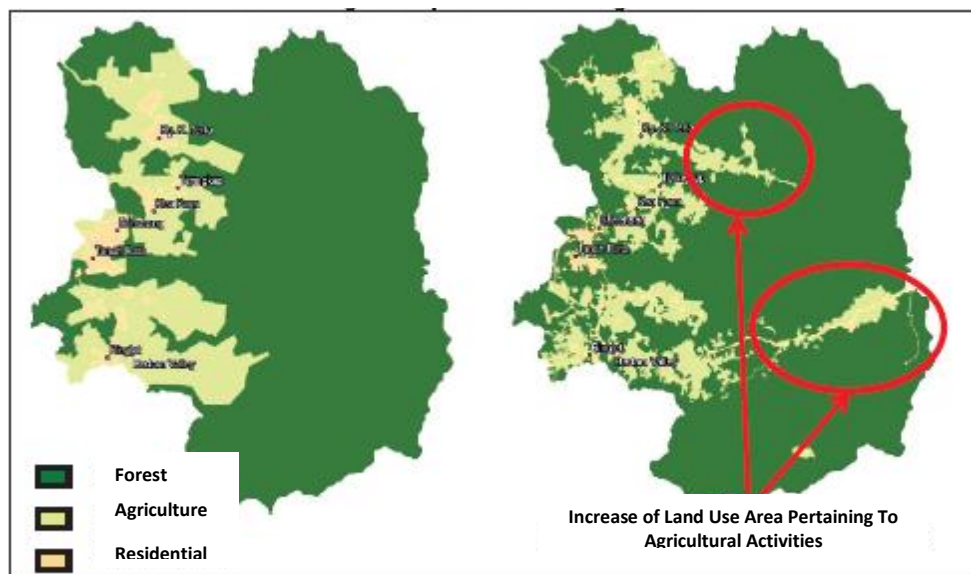
- 1.1 Rapid and extensive agricultural activities has been undergoing in the Cameron Highland. Farming is expanding up valleys and into the forested hills. The existence of the roads and telecommunication installations has improved access to farm sites and aid forest product extraction. These have caused the reduced of forest areas. It was found that 1,000 farms which are located upstream did not provide sufficient buffer.
- 1.2 Based on the GIS analysis, there was an increase in agriculture area of the overall land use for the period of 2009 and 2012. An image of the agricultural activities area is provided in the map below:



1.3 The following image illustrated the encroachment areas caused by agricultural activities.



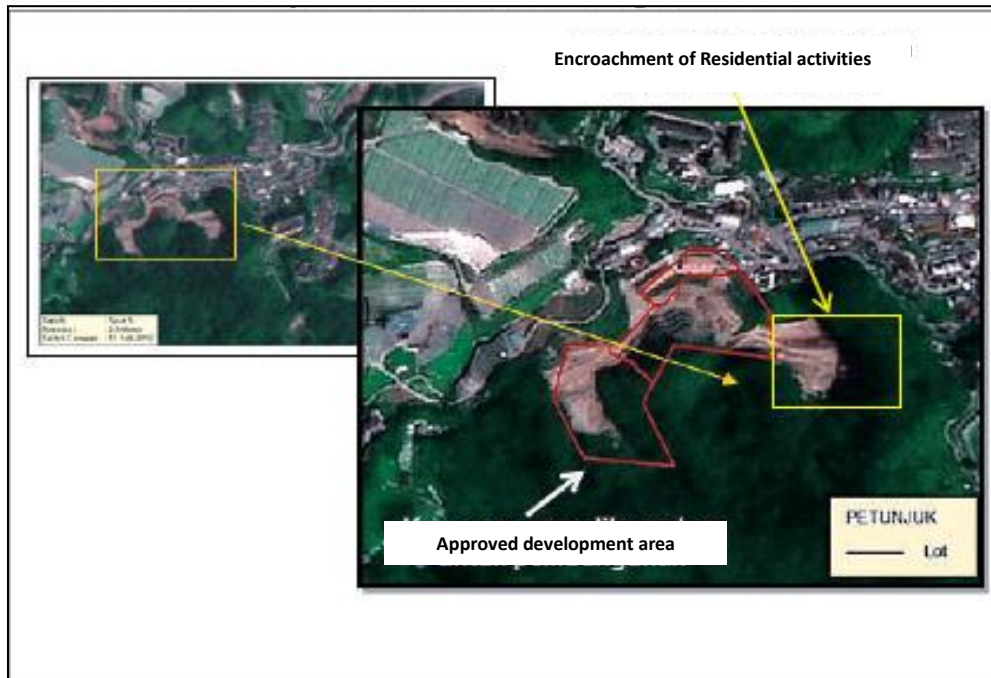
1.4 There were cases where the encroachment areas caused by individuals or parties to develop lands and erect buildings without proper procedures.



2. Land Used For Residential Purpose

2.1 Development of the residential activities also contributed to the reduced of forest area. The developers of the residential areas nearby slope are required to fulfil the safety and environmental requirements set by the technical agency in order to ensure the safety of the residents as well as conserved the environment. It was found that built slopes were not planted with grass to prevent soil erosion and drainage blockage. The water overflowed to the residents as the house position was lower than the slope. The situation will be worst during the heavy rain.





3. Occurrence of Pollution

3.1 Based on the pollution complaints reports in the Cameron Highlands from 2001 to 2013, prominent pollution are pertaining to water, land, noise, air and scheduled wastes. Among the factors contributing to air pollution was open burning for agriculture and construction. While water pollution is caused by development activity and disposal of rubbish resulting in drainage blockage. There was also lack of intensive care in hillside areas causing sedimentation in the lake.

4. Excessive Use of Pesticides

4.1 Sample of 240 crop farm per year was selected to ensure that the level of usage of pesticides as well as other materials is at allowable level. However, it was found that there is an excessive usage of pesticides which is above the rate of Maximum Residue Limit (MRL) used in the agricultural practices.

4.2 The analysis of pesticide residue of vegetable samples was exceeding the authorized MRL. Tomatoes, salad and soup leave have high frequency in the use of poison for the period 2010 to June 2013.

EXPERIENCES AND CHALLENGES

i. Knowledge and experience in environmental audit

The audit team depend on the agencies in providing expertise in understanding the technical aspects. This has helped the audit team to facilitate the audit as well gain knowledge and experience from the experts.

ii. Coordination and Communication

The preservation of the highlands involved multiple players. Therefore, communication and coordination to ensure the sustainable development of the Cameron Highlands become a challenge.

iii. Auditor's Safety

Conducted the audit also posed a risk to the auditor especially on the safety aspect as they have explore the high elevation topography and land area.

RECOMMENDATIONS

Sustainable development of Cameron Highlands required a concerted efforts, commitment and cooperation of all agencies, individuals and non-governmental organisations to support sustainable efforts in the Cameron Highlands. Several recommendations have been given to ensure that Cameron Highlands activities are managed well and protected from any violation:

- i. Since agriculture is the main activity in Cameron Highlands, guidelines for agriculture in Highland shall be adjusted and applied to ensure that Good Agricultural Practice can be implemented and pollution can be avoided;
- ii. The level of awareness of the operators/farmers should be improved as well as the public with regards to the care of environmental sustainability including ecological systems such as natural and physical resources in order to maintain the identity as one of the tourism attraction. Cameron Highlands has been gazetted as a Special Management Area and an area of Sensitive Environment shall be maintained on an ongoing basis; and
- iii. There should be more coordinated, proactive, adaptive and integrated management approach towards the development of Cameron Highlands.