

# PROTECTION AND CONSERVATION OF BIODIVERSITY OUTSIDE THE PERMANENT FOREST ESTATES (PFE) IN SABAH: WHAT ARE THE POTENTIALS?

Siti Zubaidah S. Abdullah<sup>b,\*</sup>, Indra P. H. Sunjoto<sup>a</sup>, Rosila Anthony<sup>b</sup>,  
Alexander Hastie<sup>c</sup> and Marianne Luin<sup>b</sup>

<sup>a</sup>*Deputy Chief Conservator of Forests (Planning and Management),  
Sabah Forestry Department*

<sup>b</sup>*Forest Sector Planning Division, Sabah Forestry Department*

<sup>c</sup>*Forest Resource Management Division, Sabah Forestry Department*

*\*E-mail address: SitiZubaidah.Abdullah@sabah.gov.my*

## ABSTRACT

The loss of forested areas (deforestation) and the deterioration of forest quality (forest degradation) are the main factors for biodiversity loss. In general, as officially reported in Forest Resource Assessment 2020 - Malaysia Report by the Ministry of Natural Resources and Environmental Sustainability, (NRES) the rate of loss of forest cover in Malaysia for the period of 2015-2020 is approximately 70,000 ha annually. While for Sabah, the loss of forest cover for the same period is estimated at 241,500 ha. As of 2022, Sabah still retains 4,606,475 ha or 63% of its land area under forest cover. This is comprised of the permanent forest estates or PFE (Forest Reserves, State Parks, Wildlife Sanctuaries and Wildlife Conservation Areas) and State land (including alienated land), whereby about 750,000 ha (~16.3%) are forest areas that are located outside of the permanent forest estates. The rapid development of State land and alienated land to generate socioeconomic returns has contributed to the loss of biodiversity, especially in areas that are still forested. From the aspect of compliance with the Sabah legislation, so far, the control mechanism for land development is through the approval and implementation of the Environmental Impact Assessment (EIA). However, it still fails to curb the issue of destruction and loss of biologically diverse forested areas on government and private land. This paper discusses what are the challenges in protecting and conserving biodiversity outside of the permanent forest estates in Sabah, with suggestions for future management and conservation strategies.

**Keywords:** Biodiversity conservation, protected areas, conservation strategies.

## 1. INTRODUCTION

Forests in Sabah are critically important both socially and economically. In terms of social importance, the forests are integral to the lives of indigenous communities, providing resources for traditional practices and spiritual values. Many locals rely on forests for food, medicine, and materials for shelter and crafts, fostering community resilience. The forests also support diverse ecosystems, which are essential for ecological balance and provide recreational and educational opportunities. Meanwhile, the forestry sector contributes significantly to Sabah's economy through logging and the harvesting of non-timber products like rubber and rattan. Sabah's rich biodiversity and natural landscapes attract tourists, creating jobs and generating revenue. Preserving forests can also lead to financial benefits through carbon credit schemes aimed at combating climate change.

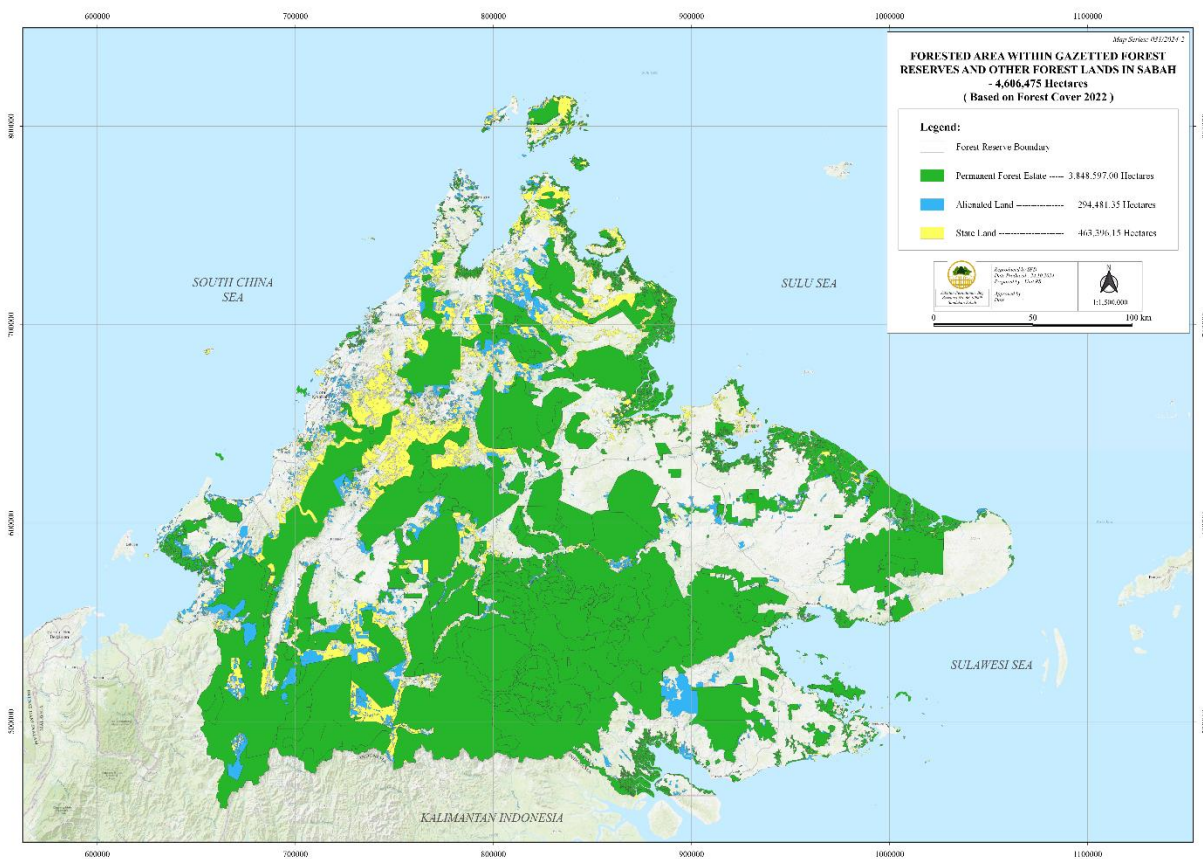
Sabah still has 63% of its landmass as forested areas. As of 2022, Sabah's forested area is 4,606,475 hectares and covers Forest Reserves, Sabah Parks, Wildlife Sanctuaries, Wildlife Conservation Areas, and government land, including titled land. To date, 52% of the total Sabah landmass has been gazetted as Forest Reserves, State Parks, Wildlife Sanctuaries and Wildlife Conservation Areas, collectively referred to as Permanent Forest Estates (PFEs). This also includes about 1.9 million ha of Production Forest (Class II Forest Reserve), from which timber extraction is allowed.

These forest estates collectively are important habitats for our native flora and fauna, but also provide important environmental services, soil erosion control, flood control, water purification, and climate regulation amongst others. The importance of regulation services it provides, and its biological heritage are important natural resources for generations to come. Sabah is committed to expanding its coverage of Totally Protected Area (TPA) to 30% of its landmass, or 2.2 million hectares by 2025, a significant contribution towards global conservation, targets, and a target that far exceeds the National's commitments under the CBD. To date, more than 27% of the State's landmass or about 2.0 million hectares has been gazetted as TPAs.

In parallel with the Convention of Biological Diversity (CBD) Strategic Plan for Biodiversity 2011–2020, the National Policy on Biological Diversity 2016-2025 (Goal 3, Target 6) also aims to conserve at least 20% of terrestrial areas and inland waters, and 10% of coastal and marine areas by the year 2025, through a representative system of protected areas and other effective area-based conservation measures (OECM). Meanwhile, the Sabah Biodiversity Strategy 2024-2034 (*Goal 3, Strategy 9*) at the state level also addresses the need to conserve at least 30% of Sabah's terrestrial and inland waters, and 15% of coastal and marine areas through an effectively managed and ecologically representative system of protected areas and other effective area-based conservation measures. One of the expected outcomes from the key actions is to have priority sites in Sabah identified with plans in place to gazette these areas as protected areas by 2030.

In the meantime, the ‘Kunming-Montreal Global Biodiversity Framework’ of the CBD COP-15 in Canada, called upon member countries *to ensure and enable that by 2030 at least 30% of terrestrial, inland water, and coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed*, a movement known as the ‘30 by 30 target’. Hence, there is a need for the state of Sabah to adhere to these global, national, and state commitments, including Sabah’s commitment to sustainable forest management. To achieve these targets, there is a need to implement a new policy to ensure areas with high biodiversity are conserved significantly.

The protection and conservation of biodiversity in Permanent Forest Estates is being carried out consistently by several management authorities, such as the Sabah Forestry Department, Sabah Wildlife Department, Sabah Parks, Department of Irrigation and Drainage, Fisheries Department and Sabah Biodiversity Centre. However, there is still a significant tract of forested land outside of the PFEs, in particular; about 500,00 hectares of forest on Statelands. These state land forests, found often in the hinterlands of Sabah, are located adjacent to the PFEs and form a natural linkage between forests within the PFE. Such Stateland forests are expected to maintain various conservation values and owning the humidity of the function of such lands, represents forested lands that are highly treated with deforestation.



**Map 1:** Forested areas within PFEs and other forest lands in Sabah

Forest loss in Malaysia according to FRA 2020, as reported by the Ministry of Natural Resources and Environmental Sustainability, (NRES) from 2015 to 2020, saw an annual decline of 70,000 hectares. For the same period, the estimated loss of forest on lands outside of the PFEs in Sabah is estimated at 241,500 hectares, approximating about 30,000 hectares converted annually equivalent to a deforestation rate of about 0.6%. Projecting forward, such forests, especially those on State lands, only about 1/3 shall remain by 2050. Deforestation in Sabah is therefore expected to surpass the 2030 cut-off date of the Leaders' Declaration on Forests and Land Use signed by Malaysia during the UNFCCC Conference of Parties 26, Glasgow, that aims to strengthen countries' commitment to land use, conservation and sustainable management of forests, and other ecosystems.

Such rapid changes in land use outside of the PFEs are driven by the socio-economic development of the State and are predominantly driven by the conversion of forests to agro-commodity crops. The development activities are compliant with State policies and laws and therefore will result in the loss of biodiversity. Currently, in the State, no compliance mechanism averts such a continual decline in forest cover, whilst limited mitigation measures can be imposed during the approval and implementation of an Environmental Impact Assessment (EIA<sup>1</sup>).

For commodities such as palm oil, the State's Jurisdictional commitment towards 100% RSPO certification by 2025, could in the future provide measures towards curbing forest conversion to oil palm. As of 2021, about 26 per cent of palm oil produced in Sabah is RSPO-certified. In the meantime, Jurisdictional Regulations such as the EUDR<sup>2</sup>, a regulation that controls the importation of commodities from the main deforestation drivers, are frameworks that are now been imposed on countries such as Malaysia to reduce or halt deforestation, to meet the global commitment to maintaining the rise in global temperature at 1.5 degree Celsius by the turn of the century<sup>3</sup>.

However, land development for other agricultural commodities domestically is still lacking a clear biodiversity protection and conservation element.

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<sup>1</sup> Under Section 5 (1) of the Conservation of Environment Enactment 1996, the Sabah Environmental Conservation Department (ECD), have the authority to decide as to whether any development project should undertake an EIA. In Sabah there are two formats for the EIA procedure: Normal -EIA and Special-EIA. Special-EIAs covers projects that are regarded as having special interest for the public and/or having a special magnitude regarding environmental impact.

<sup>2</sup> EU Deforestation-free Regulation (EUDR) is a policy framework to address and mitigate the environmental impacts of deforestation, imposed by the European Union to guarantee that the products EU citizens consume do not contribute to deforestation or forest degradation worldwide. The Regulation entered into force on 29 June 2023.

<sup>3</sup> Under the Paris Agreement, countries agreed to substantially reduce global greenhouse gas emissions to enable the long-term global average surface temperature increase to be kept well below 2°C above pre-industrial levels and pursue efforts to limit it to 1.5°C. At COPs 26, 27, and 28, countries emphasized that the impacts of climate change would be much lower at a temperature increase of 1.5°C, compared with 2°C, and expressed their firm resolve to pursue efforts to **limit global warming to 1.5°C**. ([COP outcomes](#); [IPCC](#))



*Conversion of sub montane forest to agricultural use at Kundasang, Ranau, Sabah*

## **2. ISSUES AND CHALLENGES**

Although Sabah maintains about 63% of its total landmass under forested areas, the State still faces issues and challenges in conserving its forests. One of them is the need for socio-economic development as Sabah is still a developing State, often meaning socio-economic development needs, such as food security, job creation, etc., will take precedence over the conservation and protection of our forests. While we need to maintain our forests, we also need to develop the land to cater the social needs, food security etc.

Climate change is also one of the challenges, and it is beyond our control. We are facing unpredicted weather e.g., El-Nino happens almost every year nowadays. Forests' integrities are impacted. If the development of forested areas outside of the gazetted area, covering government land and private land, fails to be reduced or curbed, this will contribute to an increase in the rate of forest loss in Sabah in particular, and Malaysia in general. It becomes a direct agent for the destruction of biodiversity and then becomes the main cause of the extinction of flora and fauna species that are sensitive to changes in forest structure. In addition, the continuation of the process of losing forested areas will have a significant impact on the effects of global warming in the long term.

The population in Sabah is projected to grow from 3.1 million in 2010 to 5.5 million by 2033 (Sabah Structure Plan, 2033). Poverty eradication, particularly in rural areas, will always be the



State Government's priority, if sufficient wealth and a diversified economy are not provided for the population of Sabah. It is ironic that districts with high forest cover, then to be some of the poorest districts in Sabah. Such a simple analogy belies the complexities of poverty eradication. A populist solution is more land for socio-economic development.

Meanwhile, other sectors such as tourism, agriculture, and production industries, will require adequate infrastructure development like roads, settlements, hotels, electricity, and water. Natural resources will be at risk as the increase in conflict between conservation and economy grows. As social development occurs, forests may be cleared or fragmented. This disrupts habitats, leading to biodiversity loss by making it harder for species to thrive or migrate between forest patches. In the context of Sabah, balancing socio-economic development with conservation efforts is critical to maintaining biodiversity while addressing the needs of local communities.

### **3. POTENTIAL APPROACHES**

3.1 Overall, Sabah aims to protect its biodiversity while harmonizing economic development through sustainable practices. Therefore, it is recommended that the following approaches be taken in future conservation works, particularly for forest areas outside of the permanent forest estates: -

#### **3.1.1 Payment for Ecosystem services (PES)**

The Sabah Government has explored new policy options and mechanisms to regulate and manage biodiversity conservation and the financial mechanism of Payment for Ecosystem Services (PES) in Sabah. The Sabah Forestry Department with funding support from UNDP-GEF has implemented the '*Biodiversity Conservation in Multiple-Use Forest Landscapes in Sabah*' Project (2012-2019), where one of the outputs from the Project is about Innovative Financing. The legal framework for this innovative financing is still under deliberation. However, for this paper, the following method is suggested for PES implementation within forested areas outside of the PFE:

- ✓ Owners of government land and private land that still have forested areas with a minimum size of 10 ha, are encouraged to maintain the forest structure and are allowed to carry out development with a land use ratio of 60:40 within a certain period, such as 10 years.
- ✓ The ratio of land use is 60% remains as forested area and 40% is allowed for agricultural activities within 10 years. Within 10 years, landowners must manage forested areas (60%) through the concept of sustainable forest management (SFM) approved by the Sabah Forestry Department, to qualify for Payments for Ecosystem Service. Landowners also need to demonstrate the best agriculture

management practice for the remaining 40% of the area that has been confirmed by the Sabah Agriculture Department.

- ✓ During the first 5 years, landowners are eligible to receive Ecosystem Service Payments on the condition that they implement and obtain recognition for the management of forested areas and practice the best agricultural management (Good Agriculture Practices) from the relevant authorities. Landowners will also receive Ecosystem Service Payments for the second 5-year period under the same conditions.
- ✓ The assessment and payment mechanism will be coordinated by a specific committee at the Sabah state level.

### 3.1.2 Other Effective Area-Based Conservation Measure (OECM)

Another option for Sabah is also to explore the potential of the OECM (Other Effective Area-Based Conservation Measure) approach, in addition to supporting the conservation of in-situ biodiversity with related ecosystem functions and services. The OECM concept was stated in the AICHI Biodiversity Conservation Target 11 as follows:

*“By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and **other effective area-based conservation measures** and integrated into the wider landscapes and seascapes.”*

For Sabah, the OECM concept has also been included in the Sabah Biodiversity Strategy (SBS), Action 9.4, which states that Sabah must recognize the role of OECM and develop its capacity to implement OECM concepts in a scientific and technically appropriate manner. The criteria for OECM are defined as per the following:

*“A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values”*

In gist, an OECM must be an area important for biodiversity, must be proved as a ‘managed and governed’ area, and if there is a local community, they must ‘approve’

the OECM concept for the area. No protected areas can be accepted as OECM. Recommendations for a framework on OECMs should include:

- ✓ Actions plans/strategies on the implementation of OECMs
- ✓ Legal guidance; by way of sample provisions and Gazette Notifications for the designation & recognition of an OECM.

Strategies for the National Implementation of OECMs are still underway. It is hoped that the Sabah Government will develop its strategies for OECMs in due course, and thereby be able to strategize with the Federal Ministries to seek sustainable funding for such an approach towards conservation.

### **3.1.3 Certification under the Forest Conservation Certificate (FCC).**

Forest Conservation Certificate or FCC is a non-market-based instrument initially developed under the REDD-plus Finance Framework (RFF) by the Federal Government, to mobilize sustainable financing for forests. This instrument serves dual purposes i.e. (a) verifying sustainable forests initiative on the ground, and (b) incentivising corporate contributions to forest conservation efforts. The FCC aims to support sustainable forest initiatives such as maintaining forest cover, enhancing carbon sequestration, and preserving biodiversity. The FCC Protocol promote these efforts to be developed in a collaborative private-private partnership structure. Through the FCC, the project proponents e.g. landowners could propose forest conservation initiatives for their areas, to receive funding from the donors. The project proponents can come from government ministries and agencies, landowners, NGOs or private entities. Whereby the donors can be from local or international entities i.e., businesses, companies, societies or individuals.

There are several ways of rewarding voluntary efforts through the FCC i.e.: -

- Tax reduction of up to 10% of aggregate income;
- Audited sustainability reporting benefit;
- Each certificate showcases verified conservation outcomes.

The FCC could help the Sabah Government through enhancing forest connectivity, enforcement, and rehabilitation of peatland forests. Thus, the FCC is designed to verify conservation projects and ESG (Environmental, Social and Governance) contributions by companies.



#### **4. WAY FORWARD FOR SABAH**

As a means to move forward with the recommended approaches, the State Government needs to have a clear design and framework for incentives to landowners through the various concepts of finance solutions. These could be done by improving the legal and institutional framework, financing mechanism, and through new technology application.

##### **4.1 Legal and Institutional framework: -**

The Sabah Government needs to consider strengthening the relevant legislation and policy, to continue with this proposal. Proposed actions are as follows: -

- (i) To rationalize land use management, especially alienation of forested areas that have sensitive ecological value or Ecologically Sensitive Area (ESA).
- (ii) To regulate and monitor the development of forested areas categorized as Ecologically Sensitive Area (ESA) on Stateland and titled land.
- (iii) To regulate the framework of the Payment for Ecosystem Services (Payment for Ecosystem Services) mechanism.
- (iv) To establish a framework for the recognition of Sustainable Forest Management and Best Agricultural Management practices on forested state land, government-vested land and alienated land.
- (v) To amend any relevant State laws to enable and facilitate the implementation of OECMs.

Institutional arrangements at the State level also need to be enhanced. In 2019, the Sabah State government has given the mandate to the Natural Resources Office to chair the Special Committee to explore the implementation of PES and CF (Conservation Financing) in Sabah. The committee consists of relevant State's Government agencies i.e the Ministry of Finance, Ministry of Tourism, Culture and Environment, State's Attorney General's Chambers, State Economic Planning Unit, Sabah Forestry Department, Sabah Wildlife Department, Sabah Parks and other relevant agencies.

It is important to revive the committee in efforts to leverage biodiversity conservation in the State, particularly those located outside of the Permanent Forest Estates (PFEs).

##### **4.2 Financing Mechanism**

The Sabah and/or Federal Government needs to provide and/or create a special fund instrument to support the implementation of a kind Pilot Project for the Payment for Ecosystem Services. The Sabah Government may establish a Special Trust Fund to facilitate participation from private sectors or companies and Non-Governmental Organizations (NGOs) who are interested in participating in the payment for ecosystem services

programme. This Special Trust Fund will be used as a sustainable financial source for the payment of ecosystem services to qualified applicants or participants after the pilot project phase ends.

Land acquisitions are perceived to be costly nowadays. However, there are certain cases of land acquisitions that need to be taken on, to serve conservation purposes. At the National level, to address issues of biodiversity loss, the Federal Government has set aside RM200 million under the Ecological Fiscal Transfer (EFT) this year. Currently, the EFT does not allow the usage of the fund for land acquisitions. It is suggested for the Government to revisit the purpose of EFT and to include land acquisition for ecological conservation.

#### **4.3 Technology application towards identifying Ecologically Sensitive Area (ESA)**

Ecologically Sensitive Area (ESA) refers to a specific area that requires special attention and protection due to its unique ecosystem and biodiversity. In the age of rapid technological advancement and increasing environmental challenges, geospatial technology has emerged as a crucial tool for effective environmental management. This technology, encompassing Geographic Information Systems (GIS), remote sensing, and Global Positioning Systems (GPS), provides innovative solutions for monitoring, analysing, and managing the environment.

Remote sensing for instance involves collecting data from satellites and aerial platforms to monitor various environmental parameters. This technology is invaluable for tracking changes in land use, vegetation cover, water bodies, and atmospheric conditions. For example, satellite imagery can reveal deforestation patterns, helping authorities to implement conservation strategies.

Meanwhile, the usage of the Geographic Information Systems (GIS) mapping enables the creation of detailed maps and models that represent environmental data spatially. GIS can layer different data sets, such as soil quality, water resources, and biodiversity hotspots, to provide a comprehensive view of the environment. This integration helps in identifying trends, and patterns that are critical for making informed decisions.

It is possible to cater to social needs while protecting forests by implementing measures that reduce negative impacts, such as proper zoning, enforcing regulations, and involving local communities in conservation planning. This way, we ensure that development meets human needs without leading to overexploitation of resources or destruction of habitats.

## 5. CONCLUSION

The challenges for biodiversity conservation in Sabah are many. The contribution of natural resources and the agricultural sector to the national economy has been important in the State's development. As the manufacturing and services sectors mature and increase their share of the State's economy, reliance on natural resources is still heavy.

However, several approaches can be used to encourage forest or biodiversity conservation outside of the protected areas, to help the State protect and conserve high conservation value areas located outside of the permanent forest estate. It is timely for the State to design a clear framework for incentives to landowners through the various concepts of finance solutions. Hopefully, throughout the implementation of the proposed solutions, land use planning and management in Sabah can be done through integrated landscape management, to harmonize land development with the need for biodiversity and ecosystem conservation.

It is important to recognize that while development is necessary to address social needs, it should be done sustainably, strategized and carefully planned. This involves planning and managing land use in a way that minimizes habitat fragmentation, reduces human-wildlife conflicts, and ensures the continued provision of ecosystem services such as water purification and carbon sequestration, which are vital for both people and nature.

Finally, while immediate development might seem crucial for social and economic reasons, long-term sustainability requires the protection of forests to avoid environmental degradation that could undermine food security and social well-being in the future. Healthy forests contribute to resilient agricultural systems, climate regulation, and water security, all of which are essential for sustained social development.

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