

## SARAWAK'S INITIATIVES IN REGULATING DEVELOPMENT IN PEAT AREAS

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### SUMMARY

Peatlands in Sarawak, Malaysia are distributed mainly in coastal areas. Sarawak's peatlands have been utilised since the 1960s and contributed significantly towards the State's socio-economic development. In recent years, Sarawak's peatlands have become the focus for the modernization of the plantation agriculture sector, helped by various Federal and State government agencies. This paper highlights Sarawak State Government's initiatives to regulate the development in peatlands, through legislation, institutional framework, management strategies and setting aside representative peatland areas as Totally Protected Areas (TPAs) for peatland biodiversity conservation.

**KEY WORDS:** Socio-economic development, peat resources, modernization of agriculture, sustainable manner

### INTRODUCTION

Sarawak, at 12.4 million hectares (ha), is the largest state in Malaysia. Peatlands in Sarawak are mostly found in coastal areas (Fig. 1) and cover about 1.7 million ha. They represent about 62% of Malaysia's 2.74 million ha of peatlands. The five main peat regions in Sarawak (Table 1) are-Batang Baram, Suai-Sibuti, Rajang-Tatau, Batang Lupar-Batang Krian and Batang Samarahan-Batang Sadong (SPU, 1999). The majority of the Batang Baram, Suai-Sibuti and Rajang-Tatau peatlands are under the Sarawak Corridor for Renewable Energy (SCORE) development areas. Timber has been harvested from Sarawak's peat swamp forests (PSF) since the early 1960s. The revenue generated has been used for the State's economic growth. Many rural and coastal settlements have benefitted from the development of much needed road infrastructure and provision of public amenities such as treated water and electricity.

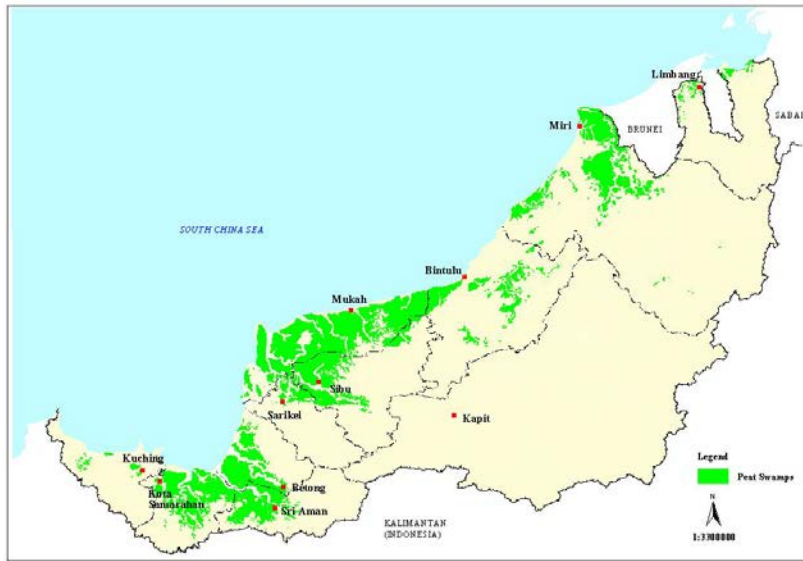


Fig 1. Distribution of peat areas in Sarawak (Source: Agriculture Department, Sarawak)

Table 1. Five main peat regions of Sarawak.

No	Region	Size (ha)
1.	Rajang - Tatau	828,366
2.	Batang Samarahan – Batang Sadong	127,562
3.	Batang Baram	295, 995
4.	Suai - Sibuti	110,616
5.	Batang Lupar – Batang Krian	335, 308
	<b>TOTAL</b>	<b>1,697,847</b>

### Sarawak’s initiatives to develop its peatlands

The Integrated Development Plan Study for Coastal Peatland (SPU, 1999) recommended that peatlands, including native customary land (NCL), should be developed through private sector participation. This is important to alleviate poverty among rural communities and to achieve high economic growth, while sensitive peatland areas should be protected and managed for biodiversity conservation. The State has decided to sustainably develop its vast and underutilised peatlands in order to generate sustainable benefits. Plantation agriculture (oil palm, rubber, sago, pineapples etc.) is being modernised whereas aquaculture and halal food production are being developed, especially in the SCORE area. The State anticipates that agricultural sector development, together with the development of heavy, downstream process and servicing industries under SCORE, will help propel Sarawak towards high income economy status by 2030.

The State has entrusted relevant Federal and State government agencies to help modernise Sarawak’s agricultural sector. The Sarawak Land Consolidation and Rehabilitation Authority (SALCRA), Land Custody Development Authority (LCDA), Sarawak Economic Development Corporation (SEDC), Federal Land Development Authority (FELDA) and Sarawak Land Development Board (SLDB) will facilitate the development of oil palm,

rubber, sago and other cash crop plantations through joint ventures with private sector and NCL owners.

According to BP (2011), the State has planted oil palm on about 750,000 ha of arable and underutilised lands, with about 400,000 ha on peatlands. Well-managed mature oil palm plantations on peatlands have been found to produce an average yield of about 25 – 30 tonnes per ha of Fresh Fruit Bunches (FFB), about 20% more than oil palm plantations on mineral soil areas in Sarawak (BP, 2011). Thousands of small-holders and NCL owners who participated under the New NCL Development Model are now reaping dividends from bumper harvests and high Crude Palm Oil (CPO) prices.

### **Regulation and management of peatland development**

Countries in the ASEAN region recognize the global significance of peatlands as organic carbon stores and in balancing greenhouse gases (GHG). The ASEAN countries adopted the ASEAN Peatland Management Initiative (APMI) in 2003 and formulated the ASEAN Peatland Management Strategy (APMS) in 2006. The objectives were to coordinate the management of peat resources and address associated environmental issues such as transboundary haze pollution. In Malaysia the Federal Ministry of Natural Resources and Environment (NRE) has formulated the National Action Plan for Peatlands, as a guide for the sustainable management of peatland in Malaysia (NRE, 2011).

Various laws govern the management and protection of peat resources in Sarawak (Table 2). Various agencies were established, *inter alia*, to enforce and implement strategies for the sustainable management of peatland (Table 3). Among these agencies are the Ministry of Resource Planning and Environment, Forest Department (FD) Sarawak, Sarawak Forestry Corporation (SFC), Natural Resources and Environment Board (NREB), Sarawak Biodiversity Centre (SBC) and Drainage and Irrigation Department (DID). Tropical Peat Research Laboratory (TPRL) Unit under Chief Minister’s Department was established in 2008 to conduct holistic research on peat dynamics and the potential of peat for lasting benefits to Sarawak and global community. This represents an important initiative by Sarawak to help protect and manage its peat resources.

Table 2. Legislation governing the management and protection of peat resources in Sarawak

<b>Legislation</b>
1) Forests Ordinance 1954
2) Forest Rules 1962
3) Forests (Planted Forests) Rules 1997
4) Wildlife Protection Ordinance 1998
5) National Parks and Nature Reserves Ordinance 1998
6) Land Code 1958
7) Mining Ordinance 1958
8) Natural Resources and Environment Ordinance 1993
9) Natural Resources and Environment (Prescribed Activities) Order 1994
10) Natural Resources and Environment (Fire Danger Rating Systems) Rules 1997
11) Sarawak Rivers Ordinance 1993
12) Water Ordinance 1994
13) Sarawak Forestry Corporation Ordinance 1995
14) Local Authorities Ordinance 1996
15) Sarawak Biodiversity Centre Ordinance 1998

Table 3 Institutions governing the management and protection of peat resources in Sarawak

<b>Legislation</b>
16) Forests Ordinance 1954
17) Forest Rules 1962
18) Forests (Planted Forests) Rules 1997
19) Wildlife Protection Ordinance 1998
20) National Parks and Nature Reserves Ordinance 1998
21) Land Code 1958
22) Mining Ordinance 1958
23) Natural Resources and Environment Ordinance 1993
24) Natural Resources and Environment (Prescribed Activities) Order 1994
25) Natural Resources and Environment (Fire Danger Rating Systems) Rules 1997
26) Sarawak Rivers Ordinance 1993
27) Water Ordinance 1994
28) Sarawak Forestry Corporation Ordinance 1995
29) Local Authorities Ordinance 1996
30) Sarawak Biodiversity Centre Ordinance 1998

When peatlands are developed for other land uses, environmental degradation due to peat subsidence, flooding and saline intrusion may ensue (Mamit and Sawal, 2003; Sawal, 2003). The State has adopted various management strategies to mitigate such alteration of peat ecosystems.

The Natural Resources and Environment (Prescribed Activities) Order 1994 regulates the conversion of peatlands for agriculture, forestry, infrastructure, commercial or industrial development, mining and settlements. The law requires that an Environmental Impact Assessment (EIA) study be conducted and approved before developments involving prescribed activities commence. Terms and conditions for EIA approval are set out. These include measures to mitigate environmental degradation as well as the needs and rights of local communities. The law requires strict compliance with these terms and conditions. Non-compliance with the approval conditions is deterred through post-EIA monitoring and enforcement activities carried out throughout the lifespan of the project.

The Drainage and Irrigation Department formulated a *Manual on Water Management Guidelines for Agricultural Development in Lowland Peat Swamp of Sarawak* to provide guidance on how to regulate water tables and reduce peat subsidence (DID, 2001). The NREB implements the *Natural Resources and Environment (Fire Danger Rating System) Rules 2004* (NREB, 1997) to control haze pollution from local sources. This is done through issuance of controlled open burning permits for disposal and management of biomass. Besides, NREB also conducts outreach programmes to enhance public awareness on environmental protection. All stakeholders, including peatland developers, are informed about their role through corporate social responsibility (CSR) and corporate environmental responsibility (CER) initiatives. This will further support the initiative by government agencies to meet long term objectives of self-regulation.

### **Biodiversity conservation**

Many important mammal and reptile species are found in abundance in undisturbed peat areas such as peat swamp forests (PSF). The iconic Proboscis monkey (*Nasalis larvatus*), the

elusive Red-banded langur (*Presbytis melalophos cruciger*), the Malayan false gharial (*Tomistoma schlegelii*) and the Asia soft-shell turtle (*Amyda cartilaginea*) are among such species. Peatlands also support diverse aquatic ecosystems. The State has set aside peatland areas that have special biodiversity values and gazetted them as Totally Protected Areas (TPAs) (National Parks, Wildlife Sanctuaries or Nature Reserves). So far about 93,340 ha have been gazetted, including Loagan Bunut National Park (10,736 ha), Maludam National Park (43,147 ha), Sibuti Wildlife Sanctuary (678 ha), Kuching Wetlands National Park (6,610 ha), Rajang Mangroves National Park (9,379 ha) and Samunsam Wildlife Sanctuary (22,792 ha). Many other TPAs are in various stages of gazettelement, to meet the State's target of 1.2 million ha of TPAs. In addition, the State plans to set aside 6.0 million ha as Permanent Forest Estate (PFE) and other environmentally sensitive areas like water catchment areas.

## CONCLUSION

Sustainable development can only be achieved if socio-cultural, ecological and economic considerations are fully integrated in both the planning and implementation stages. In Sarawak, the best strategy to manage and conserve peatlands is to tackle the poverty of local communities living in peatland areas so that their livelihood can be improved. The State Government is very committed to bring development and progress to Sarawak, a sovereign State within Malaysia, as well as to ensure these important resources are managed sustainably for the benefit of present and future generations.

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