

The ASEAN/IFAD/GEF Project: Rehabilitation and Sustainable Use of Peatland Forests in South East Asia

The APFP project aims to demonstrate, implement and scale up sustainable management and rehabilitation of peatland forests in South-East Asia. It fits within the framework of the ASEAN Peatland Management Initiative, and directly supports the APMS, and associated National Action Plans on Peatlands in the participating ASEAN countries: Indonesia, Malaysia, Philippines, Viet Nam, Brunei Darussalam and Singapore.

- **Strengthening institutional capacity and frameworks**

The Project will strengthen inter-sectoral policy and planning frameworks for integrated peatland management, including supporting the development and implementation of National Action Plans on Peatlands. The Project will also build capacity for peatland management through training and awareness programmes in key sectoral agencies and institutions, creating a core group of peatland experts in the region. The possibility of establishing innovative financing mechanisms will be explored to support the longer-term implementation of the APMS.

- **Reducing the rate of degradation of peatlands in South East Asia**

The Project will have an immediate impact on controlling peatland fires and reducing transboundary haze by developing and supporting effective prediction and warning tools for fire-prone peatlands at the regional level, while improving prevention and control mechanisms at the local level. The Project will develop an

inventory of peatland areas of critical importance in the region with recommendations for management actions; particularly priority areas for biodiversity conservation and rehabilitation; and for carbon storage potential.

- **Demonstrating integrated management and rehabilitation of peatlands at target sites**

The Project will develop a network of demonstration sites to showcase sustainable peatland management and rehabilitation options. Common strategies and master plans for entire peatland hydrological units will be produced through a multi-stakeholder and integrated approach at selected sites. Within demonstration sites, the Project will undertake activities to restore and improve the resilience of the ecosystem, for e.g. by blocking abandoned drainage channels to restore the hydrological regime and help reforest degraded areas.

- **Engaging the private sector and local communities in sustainable peatland management**

The Project is highly innovative in that it will engage with partners across sectors and at various levels. It will work with high-impact sectors such as the oil palm community (through the Roundtable for Sustainable Palm Oil and national oil palm associations) and the forest industry. At selected pilot sites, joint activities with the private sector and the local community would involve community forest management and integrated farming. At regional level, guidelines for best practices for plantations on peatlands will be jointly developed with the private sector.



Project Information Summary

Title	: Rehabilitation and Sustainable Use of Peatland Forests in South-East Asia
Executing Partners	: National and local government agencies of Indonesia, Malaysia, the Philippines and Viet Nam, ASEAN Secretariat, International Fund for Agricultural Development (IFAD), and Global Environment Centre.
Other Partners	: Brunei Darussalam and Singapore
GEF Focal Areas	: Land Degradation, Biodiversity, Climate Change
GEF financing	: US\$4,299,164
Cofinancing	: US\$10,207,457
Total financing	: US\$14,506,621
Period of Execution	: Four years (2010-2014)

Addressing Peatland Degradation in South East Asia : ASEAN's Regional Efforts



Enabling poor rural people to overcome poverty



Peatlands are Unique Ecosystems

Peatlands are wetland ecosystems where partially decomposed organic matter accumulates over thousands of years under waterlogged conditions to form carbon-rich soil, or "peat". Low-lying peatlands are usually found between rivers in coastal areas or in floodplains and occur mainly in boreal, sub-arctic and tropical zones. About 60% of the world's tropical peatland resources are found in South East Asia. Most of the region's 25 million ha of peatlands are naturally forested and are found in Indonesia and Malaysia. Although peatlands cover just 3% of the world's land surface, they are the most important terrestrial store for carbon - equivalent to the carbon stock in all terrestrial biomass and twice that of forest biomass. Peatland biodiversity is also of global significance. Tropical peat swamp forests provide essential life-support and environmental

services such as climate control, water supply and flood control, and also have a high economic value due to their timber resources. They are also habitats for rare and endangered fauna, including the Bornean Orang Utan (*Pongo pygmaeus*), the Sumatran Tiger (*Panthera tigris sumatranus*) and the Sun Bear (*Helarctos malayanus*). Many rural people in South East Asia, especially indigenous peoples, are dependent upon the ecosystem goods and services that peatlands provide. Fishing in peatland "blackwater" rivers provides an important source of protein for local communities. The weaving of mats and baskets from sedges (grass-like plants that are common in peatlands) and the marketing of rattan are important livelihoods. There are numerous other forest and non-timber forest products.

Key Facts on Peatlands in SE Asia

- Tropical peatland forest ecosystems are unique - they support many specialized species and are critical for biodiversity conservation.
- Peat swamp forests provide significant economic contributions through timber and non-timber forest products, water supply and flood control as well as climate regulation.
- Sustainable utilisation of peatlands can provide significant benefits to local communities and national economies.
- The large-scale conversion and utilisation of peat swamp forests have severely affected the integrity of peatlands in the region; more than 30% of the peat swamp forest has been converted to agricultural land and a further 40% degraded over the last 20-30 years. [is there is time period over the period this occurred].
- Degradation turns peatlands from carbon sinks into net sources of carbon emission: GHG emissions from peatland drainage and fires in SE Asia are estimated to be equivalent to 1,500-2,000 million tonnes of CO₂ equivalent per annum or about 20% of all global emissions from land use change.
- Increased CO₂ concentrations in the atmosphere raises temperatures, decreases rainfall and may intensify El Niño events, all of which could increase the severity of future fires.
- Awareness of the importance of tropical peatlands is needed for their integrated management to reduce the rate of peatland degradation and CO₂ emissions from unsustainable activities.

Peatland Degradation in South East Asia

The degradation of South East Asia's peatlands has accelerated in the last 20 years. Large-scale land clearing and drainage often linked to agricultural development are the main causes of severe degradation. Peatlands are fragile ecosystems which become easily degraded following human activities - most forms of timber extraction from peat swamp forests, conversion to agriculture, development of infrastructure projects and other development activities on peatlands involve lowering the water table. This drainage alters the hydrology of the ecosystem, makes peatlands more susceptible to fires and induces subsidence. Proper techniques used at suitable peatland sites can create productive agricultural land; however in many areas problems of fire and subsidence have caused the eventual abandonment of these areas. Fire is often used for land clearance, and under dry conditions, leads to extensive and persistent fires that are the main source of smoke haze in the region. The lowering of the water table through drainage also causes the peat to oxidize and further degrade, thus turning peatlands into net carbon emitters. Peatlands in South East Asia cover 7% of the global peatland area (i.e. boreal, sub-arctic and tropical peatlands); however they are responsible for more than half of the total emissions from all peatlands in the world (Hooijer et al, 2006)*.

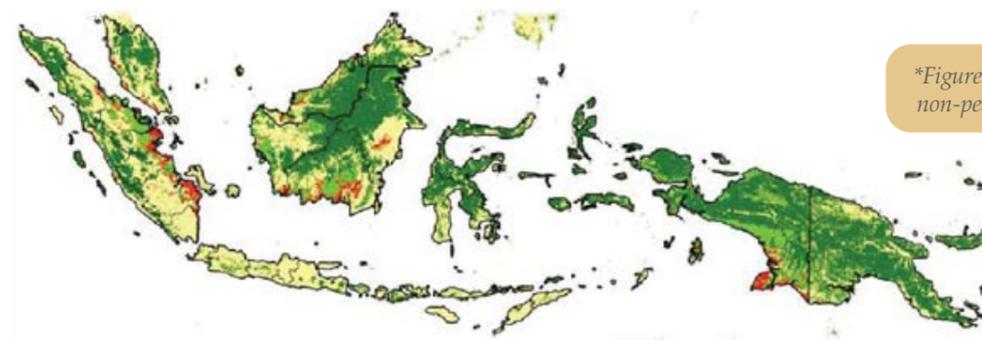
Fires on peatlands contribute significantly to carbon emissions and have severe health and socio-economic consequences. Peat and forest fires in the region in 1997/98 contributed to the largest annual recorded increase in atmospheric CO₂ concentrations. Approximately 500,000 people in the region received treatment for respiratory-related problems; economic and environmental losses have been estimated at US\$9 billion. Transboundary smoke haze has been identified as one of the most severe environmental problems in the ASEAN Region. It led to the adoption of the ASEAN Agreement on Transboundary Haze Pollution (AATHP) in 2002 and the endorsement of the ASEAN Peatland Management Strategy 2006-2020 (APMS).



Peatlands found behind mangroves in Cambodia.



Fires are commonly used when preparing the land.



*Figure: Forest status on peatland and non-peatland areas, in the year 2000.



Tackling the Root Causes of Peatland Degradation

Controlling and reversing peatland degradation and associated impacts requires attention to a number of root causes, common across many countries in South East Asia.

Building capacity: There is a need to increase awareness and understanding of the ecological, hydrological, and socio-economic impacts of peatland ecosystems to influence land and natural resource use planning. Institutional mechanisms and policies (at regional and national level) to support the integrated management of peatland forests should be established or strengthened to minimise overlaps, conflicts and gaps in action among the sectoral agencies responsible for peatlands.

Demonstrating best management practices: There is a need to demonstrate and document best management practices in peatlands in the region; and to showcase,

through practical on-the-ground actions, how these sustainable practices benefit the main stakeholders in the long-term as opposed to short-term economic gains. Involving the main stakeholders: There needs to be an appropriate forum for different stakeholders to work together to address priority issues in peatland degradation.

The engagement of the private sector and the local community are crucial if any intervention is to be successful and sustainable.

The local community being engaged in building a canal blocking to manage the water level in the surrounding peatlands



Key Features of the ASEAN Peatland Forests Project (APFP)

- Directly supports the implementation of the ASEAN Peatland Management Strategy 2006-2020.
- A coordinated, multi-country approach addresses common root causes and builds on knowledge sharing across the region.
- Promotes an integrated approach for peatland management among relevant sectoral agencies.
- A multi-stakeholder approach strengthens channels of communication among stakeholders - the government, NGOs, the private sector, and the local community.
- Promotes active participation of key stakeholders, engaging the private sector and empowering local communities in sustainable peatland management.
- Addresses community livelihood by involving the local community in sustainable use planning.
- Demonstrates practical on-the-ground implementation to facilitate policy change, reduce transboundary haze pollution, and generate global environment benefits.

*Source: Hooijer, A., Silvius, M., Wösten, H. and Page, S. 2006. PEAT-CO₂, Assessment of CO₂ Emissions from Drained Peatlands in SE Asia. Delft Hydraulics report Q3943 (2006)