

Tropical peatswamp destruction fuels climate change

Climate change is significantly fueled by the destruction of wetlands. Globally, wetlands - especially tropical peatlands - store more greenhouse gases than the entire atmosphere. Lose the world's peatlands and more carbon dioxide (CO₂) will be added to the atmosphere than it currently contains; equivalent to 100 years of emissions at current rates from global fossil fuel use. The bad news is, this is happening right now, especially in South-East Asia and above all in Indonesia and Malaysia.

Wetlands International calls for international action to help South-east Asian countries halt the degradation of their globally important peatlands and better conserve their peat resources through forest conservation and restoration.

Wetlands International is carrying out pilot projects to protect the remaining peatswamp forests and restore degraded peatlands in Indonesia.

Peatland degradation and climate change: a silent disaster

Of 27 million hectares of peatswamp forest in Indonesia and Malaysia, 12 million hectares (45%) have already been intensively logged and drained for a variety of land uses. Recent research by Wetlands International, Delft Hydraulics and Alterra¹ shows the enormous impact that damage to peatlands in South-east Asia has on climate change.

Whereas the peatlands of Indonesia and Malaysia cover only 0.2% of the global land surface, their destruction leads to an average annual emission of an alarming 2000 million tonnes of carbon dioxide (600 Mt from decomposition and 1400 Mt from fires) - 8% of all global emissions.

These new research figures radically change the global picture concerning carbon emissions. In the ranking of countries based on total CO₂ emissions, Indonesia comes 21st. However, if the CO₂ emissions from peatlands are included, Indonesia would be ranked third.

Peatswamp forest: up in smoke and down the drain

Peat soils are huge carbon storehouses. When peatlands are drained and dry peat comes in contact with the air, it starts oxidating and decomposing, releasing carbon dioxide, a greenhouse gas. This process happens very rapidly in the tropics - often accelerated by tens of thousands of peatfires that burn for months.

Key driving forces behind the loss of tropical peatlands are logging concessions and plantations for pulp and paper production and palm oil. Drainage channels dug into the peatswamp allow palm oil plantations to grow and logging equipment to enter and take out logs. Palm oil production in particular has grown rapidly as it is increasingly being used as a bio-fuel, in the food sector in Europe and in fast-developing countries such as China and India.

The perspectives only get worse. To cater mainly for the international bio-fuel, food and paper markets, the Indonesian and Malaysian governments are planning to expand their plantations by 6 million hectares over the next 20 years - with over 50% on tropical peatlands.



¹Hooijer, 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).

Actions needed by SE Asia

- **Protection of peat swamp forest**
No more large-scale conversion of remaining peat swamp forests to land uses such as palm oil and pulp plantations that require clear felling and drainage.
- **Incentives for sustainable use of peatland**
Stimulation of alternative livelihoods in peatlands, including fisheries, agriculture and agro-forestry with species that do not need drainage.
- **Restoration of degraded peatlands**
Restoration of peat swamp hydrology through water management measures such as closing drainage channels. Once the hydrology is restored, emissions are stopped.

Global actions needed

- **Inclusion of peatlands in climate change mitigation strategies**
Preventing emissions from peatlands is currently excluded from the Clean Development Mechanism (CDM). Contracting Parties to the Climate Convention (UN-FCCC) should ensure that CO₂ emissions from peatland degradation are addressed in climate change mitigation strategies.
- **Development of voluntary carbon trade mechanism**
An alternative financial mechanism should be developed to trigger and support peatland protection and restoration as an urgent action by nations within their suite of climate change strategies.
- **Establishment of a fund for conserving and restoring peatlands globally**
A fund is needed to restore peatlands worldwide, but with a priority on South-east Asian peat swamps.
- **Restricting trade in unsustainable products from peatlands**
Individual countries, regional authorities (like the EU) and international treaties should establish legislation or binding obligations as well as ensuring credible certification to curtail imports of products from vulnerable peatland areas.
- **Remove perverse incentives for bio-fuels from peatlands**
Current governmental subsidies and mandatory targets to stimulate green energy and fuels have caused a huge increase in palm oil imports from South-east Asia. Bio-fuels like palm oil should not qualify as "green energy" until effective and credible certification schemes are in established use, excluding palm oil derived from peatlands.
- **Promote sustainable alternative livelihoods, reduce poverty**
The tropical peatlands of South-east Asia are poverty traps where agricultural yields are low. Without alternative livelihood enterprises, it is almost impossible to stop unsustainable practices such as illegal logging and drainage for plantations. Rich countries should support the establishment of alternative, sustainable enterprises in order to reduce poverty as well as CO₂ emissions from peatland degradation.



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Current Wetlands International peatland projects:

Central Kalimantan Peatlands Project



The Central Kalimantan Peatlands Project (CKPP) aims to maintain the great natural and economic values of Kalimantan's tropical peatlands for future generations.

In Central Kalimantan over 1.5 million hectares of peat swamp forests have been logged and drained. Every year the region suffers from extensive fires. In cooperation with local communities and local authorities we are building dams to close drainage canals and raise water levels, thus preventing the oxidation of peat and reducing fire risk. Sensitive areas are replanted with local peat swamp forest trees, including species that are of commercial interest. Fish ponds are created between the dams.

CKPP is a first and small step towards restoration and sustainable use of Central Kalimantan's peatlands. The project should be the start of a much larger effort targeting all major peatlands in South-east Asia. To make this a reality, long-term funding is an absolute necessity to enable this.

Our activities in the project area: fire prevention and fire fighting, hydrological restoration, poverty reduction, improvement of public health, reforestation, biodiversity conservation, capacity building and awareness raising.

For more information: www.ckpp.org

CKPP: 2006-2007, Partners: WWF-ID, Care, BosFoundation, UNPAR, Palangka Raya, Provincial authorities, Donor: Ministry of Foreign Affairs/DGIS Netherlands



One of the dams at the Central Kalimantan Peatland Project, blocking a drainage channel, Central Kalimantan.

Demonstration Project: Berbak and Sembilang, Sumatra

Under the Wetlands and Poverty Reduction Project (WPRP), we support a major project in the Berbak and Sembilang National Parks and buffer zones, Sumatra, Indonesia. This wetland area consists of mangrove, freshwater swamp and peatland forests bordering the Sumatran coast.

The area provides essentials for local people and the regional economy, including fisheries, freshwater, timber and non-timber forest products. However, the peatlands are heavily degraded, and their natural capacity to store carbon is significantly threatened.

The project has adopted 'Bio-rights' approach in which local people are rewarded for taking action that helps to achieve sustainable peatland management. Such actions support the local, regional and global environment by reducing carbon emissions and preventing the loss of threatened plant and animal species.

Activities include: enhancing and diversifying income-generating options, local involvement in management activities (community fire brigades, joint patrols, establishment of nurseries & replanting), awareness raising and policy development.

For more information:
www.wetlands.org; www.bio-rights.org

WPRP 2006-2008, Partners: Pinse Foundation, Bina Swadaya, Wahana Bumi Hijau
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