

Forest destruction, climate change and palm oil expansion in Indonesia



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Protecting the world's ancient forests

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Forests are vital to life on earth. They are the richest of all ecosystems - covering only eight per cent of the planet¹ and are home to two thirds of all known species of terrestrial plants and animals². Millions of people rely directly on forests for food, water, medicines and other basic materials. For these forest peoples the forest defines their culture and way of life. Within developing countries, one billion of the world's poorest people depend upon forests for part of their livelihoods, and as many as 350 million people living in and around forests are heavily dependent on forests for their livelihoods and security³.

Forests are also important in helping regulate global climate and weather patterns, critical environmental systems that support life on Earth.

Much of the world's original forests have either been severely degraded or have disappeared completely. We are destroying forests at an unprecedented rate, with an area of forest the size of a football pitch cut down every two seconds. Half of the forests lost in the last 10,000 years have met their end in the last 80 years and most of that destruction took place in the last 30 years⁴.

This is driving major biodiversity loss on earth as well as destroying the livelihoods of many millions of forest dependent peoples. The current extinction rate of plant and animal species is approximately 1,000 times faster than it was in pre-human times⁵. Scientists claim that the Earth is in the sixth major extinction event⁶ and that extinction rates will further increase ten fold by the year 2050⁷.

The forests and climate change

About one-fifth of global greenhouse gas emissions are caused by deforestation, mainly from tropical forests⁸. This excludes emissions arising from forest degradation from activities such as industrial selective logging, both legal and illegal.

Forests and their soils are huge carbon stores - more so than any other land-based ecosystem. According to FAO studies⁹, they store nearly three hundred billion tonnes equivalent to 40 times the amount currently emitted to the atmosphere every year through the burning of fossil fuels and the production of cement¹⁰.

According to recent estimates, Indonesia is the world's third largest greenhouse gas emitter behind only China and the USA¹¹. Indonesia's high level of emissions is a consequence of the staggering rate at which its forests are being cleared - amounting to almost 2 million hectares per year¹² - and particularly the destruction of carbon-rich peatland forests. An estimated two billion tonnes of carbon dioxide (CO₂) are released each year from the drainage and burning of peatland forests alone in South East Asia, equivalent to eight per cent of global emissions from the use of fossil fuels. Fully 90 per cent of CO₂ emissions from peatland forests in South East Asia comes from Indonesia alone¹³.



Ancient Forests: the Climate Coolers

Ancient forests play an essential role in regulating the world's climate and global weather patterns, critical environmental systems that support life on earth. Today, only 20 per cent of the world's original forests remain in large, intact forest landscapes (IFL)¹⁴.

Fragmentation through human activities such as industrial logging, degrades ancient forests and increases their vulnerability to drought and fires, both of which are expected to increase in tropical forest regions as a result of climate change. This creates a vicious cycle and a climate feedback loop, in which degraded forest becomes increasingly vulnerable to forest fires, which in turn releases yet more greenhouse gases, further driving climate change, leading to more fires and fragmentation.

Preventing climate change from reaching dangerous levels demands that the rise in average global temperature, compared to pre-industrial levels, is kept as far below 2 degrees Celsius as possible. To achieve this requires urgent international action to drastically cut greenhouse gas emissions from two major sources: burning of fossil fuels for energy and deforestation. These sources account for about two-thirds and one-fifth of emissions to the atmosphere respectively.

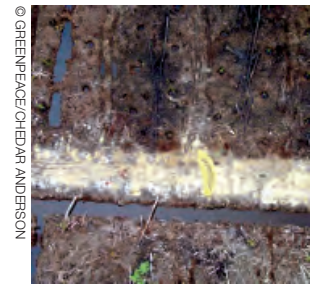
Greenpeace is promoting an energy revolution requiring countries to invest in renewable energy and improving energy efficiency. Greenpeace is also seeking a strong commitment to halt forest destruction worldwide and to have these goals enshrined in an international agreement which is binding on governments.

The Paradise Forests: Indonesia

The Paradise Forests of Asia Pacific stretch from peninsular Southeast Asia, through Indonesia, and on to Papua New Guinea and the Solomon Islands in the Pacific. The Paradise Forests are home to hundreds of indigenous cultures and countless plants and animals found nowhere else in the world.

Indonesia has the largest remaining forest area within the Paradise Forests, consisting of both large tracts of intact forests and secondary forest areas. An estimated 88.5 million hectares of forests remain¹⁵. While this may seem a lot, in reality almost half of Indonesia's forests have been destroyed since 1950 when the country's total forest cover was 162 million ha¹⁶.

Indonesia is currently losing its forests faster than any other major forested country¹⁷. Around 51 square kilometres of forests are destroyed every day, equivalent to over 300 football fields per hour.



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Drivers of forest destruction in Indonesia

A staggering 72 percent of Indonesia's intact forest landscapes (IFL) have either disappeared or been severely degraded from decades of industrial and illegal logging¹⁸.

The once mighty forests of Borneo and Kalimantan have fallen victim to unscrupulous logging companies and timber barons, with large tracts of intact forests only existing in mountainous and less accessible areas. Only the Indonesian provinces of Papua and Papua Barat, on the Western side of the Island of New Guinea, hold extensive areas of large intact forests¹⁹. But these too are coming under increased pressure as the loggers move to new forests and from the growing threat from the booming palm oil industry.

The World Bank estimates that up to 80 per cent of logging in Indonesia is illegal, but even without the problems of illegal²⁰ logging, the logging effort in Indonesia is currently unsustainable. In 2006, a total of 29 million hectares of Indonesia's forests had been earmarked for logging concessions, with a further 10 million earmarked for total conversion into timber plantations²¹.

One of the growing new threats to Indonesia's forests is the 'gold rush' for developing oil palm plantations, driven by the increasing global demand for palm oil for food, use in the cosmetics industry and the emerging demand for so-called green biofuels.

The area of land under oil palm plantation in Indonesia has almost tripled in the ten years between 1995 and 2005 with a nearly ten-fold increase in the past 20 years²². Close to six million hectares of oil palm plantations have already been developed and millions more are planned. The Ministry of Energy plans to develop four million hectares by 2015, alongside an additional three million hectares for *Jatropha* plantations for the use in biofuel alone²³. According to research conducted by a coalition of Indonesian NGOs in 2005, provincial and district governments have plans for 20 million hectares of oil palm plantation development²⁴.

Palm Oil expansion into peatlands: A global climate killer

The conversion of forests into plantations not only destroys valuable forests, but is also the leading contributor to Indonesia's massive greenhouse gas emissions. One of the key reasons for this is the destruction of peatland forests in Kalimantan and Sumatra, especially for palm oil production.

Tropical peatlands have been created over tens of thousands of years under peat swamp forests. As these forests die they form large peat mounds, rich in the accumulated carbon of generations of trees. Indonesia has 22.5 million hectares of peat soils, which is 12 per cent of Indonesia's land area and 83 per cent of South-east Asian peatlands²⁵. It is estimated that Southeast Asia's peat soils store 42 billion tonnes of carbon²⁶.

In order to prepare peatlands for agricultural use, companies start by digging canals through an area to drain the peatlands of water and remove the valuable timber. Once drained, peat mounds collapse in on themselves and become dry and highly flammable. When the carbon in the soil is exposed to oxygen, it oxidises and releases its carbon to the atmosphere. Even when not burnt, each hectare of drained peatland releases about 100 tonnes of CO₂ each year. The release of CO₂ occurs quickly if fire is used to clear the remaining forest. It is the drainage and clearing of the peatland drives greenhouse gas emissions, the use of fire merely speeds up the process.

Despite this there are plans to continue to expand oil palm production in these areas. A report of the Indonesian Forest Ministry and the European Union states:

"The world demand for palm oil is forecast to increase from its present 20.2 million tonnes a year to 40 million tonnes in 2020. If this demand is to be met, 300.000 ha of new estates will need to be planted in each of the next 20 years. We predict that by far the largest slice of this new land will come from within Indonesia where labour and land remain plentiful. And we expect that Sumatra, with its relatively well-developed infrastructure and nucleus of skilled labour, will absorb 1.6 million hectares of this expansion. It is inevitable that most new oil palm will be in the wetlands, as the more 'desirable' dry lands of the island are now occupied."



Approximately 14 per cent of Indonesia peatlands are under oil palm plantations, another 10 per cent are under timber plantations. This does not take into account state-owned, cooperative or other agricultural developments. Approximately 12 per cent of Indonesia's peatlands are under logging concessions²⁷.

This is already a staggering level of peatland destruction and to prevent further conversion of peatlands urgent action is needed.

The Social Impacts of Oil Palm Expansion

Palm oil expansion in Indonesia is not only wreaking havoc on forests and peatlands, but in many cases it is also pushing indigenous and local communities off their land. In some cases, communities become trapped in a vicious cycle of debt, working their own land that has been converted to palm oil.

Land on which palm oil companies wish to establish plantations is often subject to existing claims by indigenous and local communities. Companies are required by law to conduct a process of consulting communities and gaining their consent to forego their rights to the land, for which they must be compensated. However, communities are often cheated out of their land and promises of compensation, and the building of schools and medical clinics, are often not fulfilled.

The Indonesian-based NGO Sawit Watch has documented numerous cases of communities having been deceived by palm oil companies and dispossessed of their land and their rights²⁹.

Efforts to swindle local communities out of their land rights include intimidation and outright cheating. Companies have used the attendance lists at consultation or 'socialisation' meetings as 'evidence' to show that communities agreed to sign over their land use rights.

Communities have also lost their forests because the land has simply been bulldozed and cleared, either through bulldozer drivers misinterpreting maps or through the use of incorrect maps³⁰.

Many community members who have agreed to give up their land to a company and to receive their few hectares of oil palm plantation to manage themselves, end up in a debt trap cycle to the company that is impossible to break out of³¹.

What must happen?

The forests of Indonesia are under siege from deforestation for oil palm expansion, timber plantations and also from illegal and destructive logging, degrading forests and often a precursor to deforestation. This is driving climate change and causing Indonesia to be one of the largest global greenhouse gas polluters on the planet.

Indonesia is hosting the next Conference of the Parties to the United Nations Framework Convention on Climate Change, which will be held in Bali in December 2007.

In the run up to this meeting Greenpeace wants the Indonesian government to immediately introduce a moratorium on further destruction of peatlands, to implement an effective action plan against forest fires and to support a reduced deforestation scheme in the Papuan provinces.

Greenpeace is calling on the Indonesian Government to implement a moratorium on deforestation and industrial logging in order to review its forest laws, address its poor record of governance and law enforcement and to implement an environmentally- responsible and socially-just land-use planning system.

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- ¹⁰ IPCC 2007 AR4 WG1 Summary for Policymakers. <http://www.ipcc.ch/SPM2feb07.pdf>
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- ¹² Forest Resources Assessment 2005, FAO
- ¹³ Hooier, A., Silvius, M., Wosten, H. and Page, S. 2006 PEAT-CO2, Assessment of CO2 emissions from drained peatlands in SE Asia. Delft Hydraulics report Q3943 (2006), p29.
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- ¹⁵ Forest Resources Assessment 2005, FAO
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- ¹⁷ Based on rates from: UN Food & Agriculture Organization (FAO), (2007): 'State of the World's Forests 2007'. United Nations, Rome.
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- ²⁰ THE WORLD BANK (August 2006), "Strengthening Forest Law Enforcement and Governance: Addressing a Systemic Constraint to Sustainable Development". Environment and Agriculture and Rural Development Departments; Report No. 36638-GLB
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- ²⁸ See Colchester, Jiwan, Andiko, Martua Sariat, Firdaus, Surambo, Pane. Promised Land. Palm Oil and Land Acquisition in Indonesia: Implications for Local Communities and Indigenous Peoples, 2006.
- ²⁹ Pers. comm with Sawit Watch September 2007; see also Promised Land.
- ³⁰ Ibid.
- ³¹ For further details see Colchester, Jiwan, Andiko, Martua Sariat, Firdaus, Surambo, Pane. Promised Land. Palm Oil and Land Acquisition in Indonesia: Implications for Local Communities and Indigenous Peoples, 2006.

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Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace.

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