

Indonesia's Rainforests and the Climate Crisis

Climate Change

Climate change is the greatest threat humanity has ever faced. Hundreds of thousands of people a year are already dying from climate impacts such as increased floods and droughts, and millions more are being displaced.¹

Leading scientists warn that global temperature rise must be kept below 2°C (from pre-industrial levels) to avoid even more dangerous climate impacts.² A world that is 2°C warmer will change life as we know it. Predicted consequences include more severe and frequent floods, drought and famine as well as the breakdown of ecosystems such as the Amazon rainforest, the likely extinction of between 20-50% of all species, and rising sea levels as glaciers and ice sheets melt.³

The Intergovernmental Panel on Climate Change has stated that if we do not take urgent action now we could see global temperatures rise as high as 4°C by the end of the century.⁴

Southeast Asia is one of the regions most exposed to, and least prepared for, the impacts of climate change, according to the Asian Development Bank (ADB). It warns that the poor - and especially women - are the most vulnerable.⁵ Approximately 2.2 billion Asians are subsistence farmers; they are already experiencing falling crop yields caused by floods, droughts, erratic rainfall and other climate change impacts.⁶

The science is clear: to give us the best chance of staying below 2°C, we need to peak emissions by 2015 and then reduce them dramatically after that.

In December, the world has an historic opportunity to step back from the brink of catastrophic climate change. The burning of fossil fuels - such as oil, coal and gas - is not the only cause of global warming. Forest destruction accounts for about a fifth of global greenhouse gas emissions, more than all the world's trains, planes and cars put together.⁷ Therefore, we can only avert a climate crisis if world leaders commit to deep and binding cuts in global greenhouse gas emissions from both fossil fuels and deforestation at the UN Climate Summit in Copenhagen.

To achieve an effective climate deal that would 'Reduce Emissions from forest Destruction and Degradation' (REDD), world leaders must agree a robust plan to end global deforestation before 2020. They must also commit €30 billion a year to a forest fund to roll the plan out across countries like Brazil, the Democratic Republic of Congo and Indonesia, and ensure that it protects biodiversity and indigenous peoples' rights.

Protecting forests stops climate change

Globally, more than one million hectares of forest, mostly tropical rainforest, is destroyed every month – that is an area of forest the size of a football pitch every two seconds.⁸

As well as supporting biodiversity and forest-dwelling communities, forests and their soils are huge carbon stores; they contain nearly 300 billion tonnes of carbon. That is 40 times more carbon than we currently emit to the atmosphere every year.⁹

Destruction and degradation of forests drives climate change in two ways. First, the clearing and burning of forests releases carbon dioxide into the atmosphere and second, the area of forest that absorbs carbon dioxide is reduced. Their role in regulating the climate is so crucial that if we destroy the last tropical forests, we will likely lose the battle against climate change.

Indonesia's rainforests and peatlands

Indonesia is a stark example of the need for a robust plan and the provision of international funds to protect tropical forests. According to the latest available figures, it has one of the fastest rates of deforestation.¹⁰ This emits so much CO₂ that Indonesia is the third largest climate polluter, after China and the United States.¹¹

The reason these emissions are so high is twofold. It is caused by the rapid rate of deforestation, and the drainage and burning of the carbon rich peat soil the forests grow on.

What is peat and why is its destruction a climate issue?

When peat is exposed to the atmosphere, CO₂ is released. Over a quarter of oil palm and pulp and paper plantations in Indonesia are on peatlands.¹² So much of Indonesia's peat has been destroyed that the CO₂ emitted accounts for 4% of global, human-induced greenhouse gas emissions.¹³

Peat is partially decayed organic matter (such as plants) that forms in wet or marshy areas. Over time, this matter becomes peat that is richer in carbon than any other soil type.

Peat soils in Southeast Asia - over 80% of which are found in Indonesia - are estimated to store some 42 billion tonnes of carbon. Of this, about 35 billion tonnes are stored in Indonesia's peat.¹⁴

The 'conversion' of forested peatland is a three-stage process:

- Usually, the most valuable trees are logged for timber.
- A network of canals is built in order to remove logs and drain the peat so that it is suitable to grow plantations of oil palm for vegetable oil or trees like acacia for pulp and paper.
- The remaining forest is cleared, which causes the peat to dry out further and to release more CO₂, (especially in El Niño years). Sometimes, it is set on fire to reduce its acidity before oil palm saplings are planted.

Deforestation of tropical forests is driven by global demand for products like paper, and palm oil, which is used in toothpaste, chocolate and as a biofuel. Since 1950, over 74 million hectares of Indonesia's rainforests have been destroyed completely and others have been seriously degraded.¹⁵

In a recent report, the Indonesian government identified the oil palm, pulp and paper, agriculture and logging industries as those primarily responsible for draining peat, for destroying its forests and for causing the country's enormous CO₂ emissions. It predicts that, unless action is taken, these emissions will continue to increase.¹⁶ However, the government continues to hand out concessions that allow these companies to destroy the remaining rainforest.

Case Study: The Kampar Peninsula

Nowhere is the dire need for the protection of Indonesia's rainforests and its carbon rich peat soils as clear as in the Kampar Peninsula in Riau Province, Sumatra. The Peninsula is home to one of the largest tropical peat swamps in the world and is one of the largest natural carbon stores on the planet.¹⁷ Covering an area of more than 700,000 hectares, the peat in this area is particularly deep. It stores about 2 billion tones of carbon,¹⁸ more per hectare than any other land ecosystem, so is one of the key global defences against climate change.

The Peninsula is also a unique sanctuary for a number of endangered species, including the Sumatran tiger and the Wallace's hawk.¹⁹ In Indonesia, it is estimated that there are now only 400-500 of these wild tigers, and their numbers are decreasing as their natural habitat is destroyed.²⁰ Since 2001, when pulp and paper companies stepped up their deforestation activities, the tigers have been forced to hunt near areas of human habitation on the Peninsula. The number of human deaths from tiger attacks has increased from an average of two to as many as 14 a year.²¹

The Peninsula is home to the indigenous Akit people and sustains fishing communities, hunters and farmers who live on its borders and waterways. Villagers in the south of the Peninsula have taken action to protect their land by building dams to prevent industries operating in the area from draining the peat soil and destroying the environment they depend on.

Threats to the Kampar Peninsula

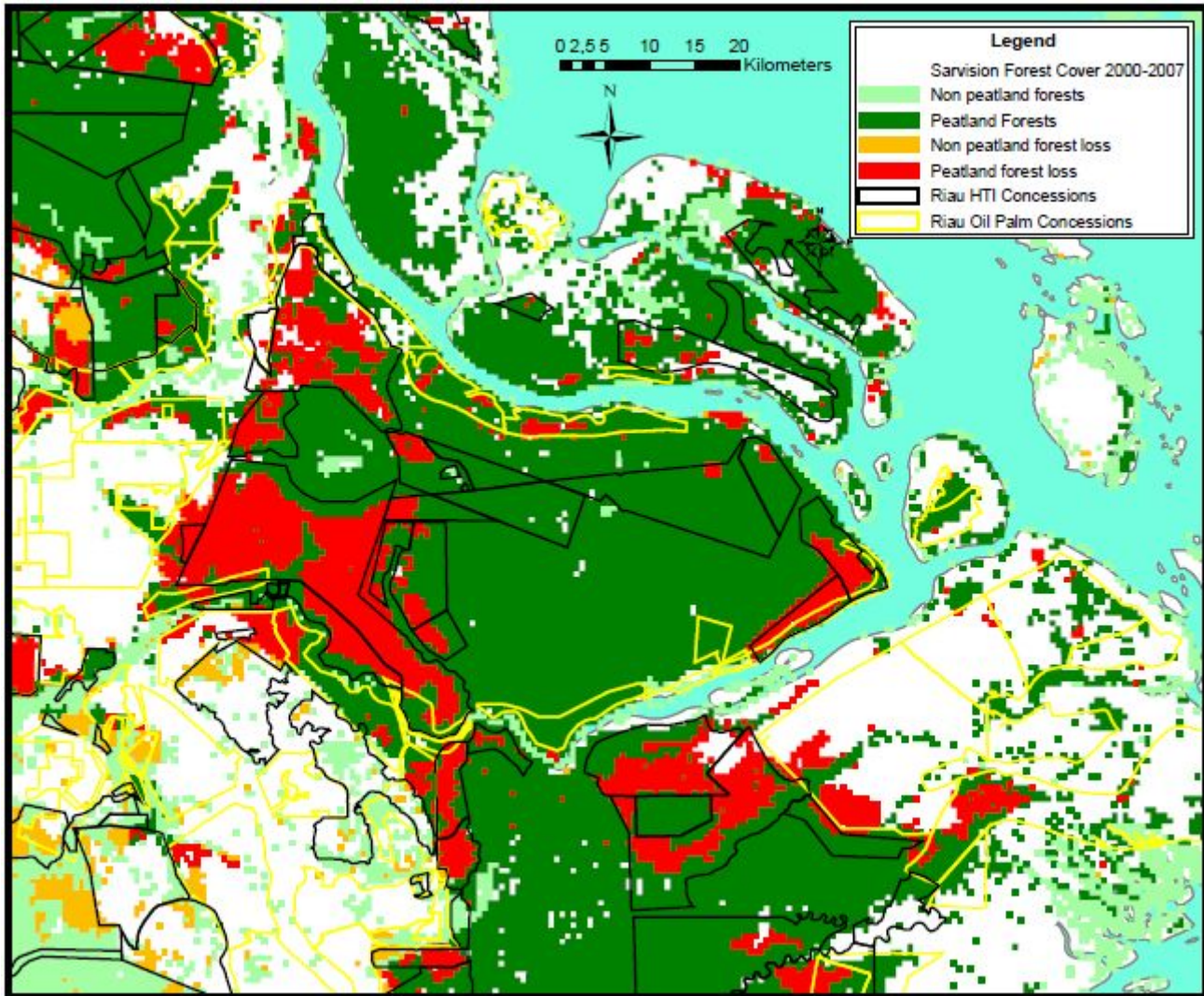
As recently as 2002, much of Kampar's 700,000 hectares of pristine rainforest and peat soil remained untouched. By 2007, 300,000 hectares - 43% of the forest - had been cleared, the peat drained and set on fire.²² The forest had been replaced by acacia plantations, which supply wood to pulp mills in order to feed to global paper market.²³ Other areas had been destroyed to grow oil palm plantations.

Plantations

Plantations are not natural forests. A natural forest has many types of trees of different ages and sustains many plants and animals. By contrast, a plantation will often only have one tree species, usually of the same age and planted closely together. They do not sustain much animal life and have little fresh water. They also usually store much less carbon than natural forests. The current UNFCCC definition of forests does not differentiate between natural forests and plantations – but it should.

Only natural forests should be eligible for REDD funding because preventing their destruction has the greatest potential to reduce greenhouse gas emissions and to protect wildlife and forest-dwelling people. Moreover, if plantations are included under REDD then forest protection funds could end up going to those responsible for forest destruction, such as the logging industry.

The Indonesian government has laws to protect some of these carbon-rich peat areas but it fails to enforce the law and even continues to grant permits to companies to destroy them. Under Indonesian law, it is prohibited to develop or clear the forest and to drain any peat if it is deeper than three metres.²⁴ Over 80% of Kampar's peat is deeper than that,²⁵ but companies are still granted licences for those areas. Only 10% of the peatlands that remain intact are officially 'protected'. The remaining 90% is under immediate threat, encircled by encroaching pulp and paper companies.²⁶ They have been allocated for conversion in spite of the law.



The Kampar Peninsula. The map shows widespread deforestation between 2000 and 2007 in pulp wood and oil palm concessions. Based on data provided by Sarvision²⁷

Partners in crime

Much of the destruction of Riau's rainforests and peatlands is caused by two main pulp and paper giants: Asia Pulp & Paper (APP – Sinar Mas) and its main rival, Asia Pacific Resources International Holding Limited (APRIL - RGE). Combined, these two companies control over 73% of Indonesia's total pulp capacity, and control two of the world's largest pulp mills.²⁸

APP

APP is Indonesia's biggest pulp and paper producer. The company is part of the larger Sinar Mas group, the largest owner of oil palm concessions in Indonesia (392,000 hectares at the end of 2008)²⁹, which controls at least 2.2 million hectares of pulpwood concessions.³⁰

In Sumatra, APP is under police investigation for burning forests within the concessions of its subsidiary company PT Arara Abadi.³¹ Greenpeace has identified hundreds of fires on Sinar Mas and APP concessions over the last four years, using satellite data³² and eye witness observations on the ground. Setting fires to clear forest is illegal³³ but often, the government fails to enforce its law.

In 2007, APP was found to be repeatedly buying illegal timber that originated from a peat area in Riau Province.³⁴ The peat was more than three metres deep so it was illegal to develop, clear or drain it.³⁵ APP's subsidiary, PT Indah Kiat, operates the largest pulp mill in the country, with a capacity of two million tonnes of

pulp per annum. In 2000, the company was found to have sourced approximately 75% of its logs by clear-cutting the rainforest.³⁶ By 2005, APP's pulp mills in Indonesia (PT Indah Kiat and PT Lontar Papyrus) sourced 60% of their fibre from rainforests instead of plantations.³⁷

APP also hit headlines at the end of 2008 when PT Arara Abadi evicted communities to clear the rainforest. Community members spoke of being subjected to excessive violence. Photos of the conflict show company security staff and police watching while villagers' houses burn. According to newspaper reports at the time, helicopters contracted by APP used flame throwers to set fire to houses.³⁸ Seventy-five community members were imprisoned for 10 months, for 'illegally' being on land they had lived on for generations, but which APP had decided to claim as its own. Their lawyers are still appealing the conviction.

Despite APP's recent attempts to greenwash its image, several large multinational companies, including Walmart and Staples, have severed ties with the company because it was unable to address their concerns about its immoral and unethical conduct.³⁹

APRIL

The vast majority of APRIL's operations involve destroying the rainforest to make pulp for paper production.

According to APRIL, together with its joint-venture partners, they operate in 850,000 hectares of 'forest land' in Indonesia. Approximately a third of this was planted with acacia plantations by 2007.⁴⁰ According to WWF, of these 850,000 hectares, 570,000 hectares are rainforest⁴¹. APRIL states in its own sustainability report that as much as 20% of the fibre it uses for its Riau Andalan pulp mill (PT RAPP) comes from natural rainforest.⁴²

APRIL has even breached the high conservation value policy (HCV) that it set itself in 2005,⁴³ to supposedly protect forest areas of environmental importance. Just two years later, the Indonesia Police Chief, General Sutanto, relayed allegations before a parliamentary hearing that PT RAPP was involved in the corruption of a local authority in order to exploit forests using illegal permits.⁴⁴

Finally, APRIL's human rights record came under scrutiny at the start of this year when its subsidiary, PT Sumatera Sylva Lestari (SSL), was investigated for the deaths of three villagers from Bangun Purba during clashes with company workers.⁴⁵

The Copenhagen solution

International governments give companies such as APP and APRIL an incentive to destroy Indonesia's rainforest and drive climate change by allowing imports of paper and palm oil products that come from forest destruction.

With the UN Copenhagen Climate Summit just around the corner, Heads of State of developed countries must show real leadership and secure a robust climate deal in December that includes a global funding mechanism that will transfer €30 billion (\$42 billion) annually from industrialised countries to poor forested countries like Indonesia, Congo and Brazil, with the aim of ending deforestation by 2020. Such a deal must deliver substantial emissions reductions from deforestation as well as protect wildlife and respect the rights of forest dwelling people. It must also ensure that money does not end up in the hands of those responsible for forest destruction, like those in the logging industry.

Greenpeace is also calling on Indonesia's President Yudhoyono to commit to zero deforestation by 2015 in Indonesia and to implement an immediate moratorium on the destruction of forests and peatlands to give the climate some breathing space while the forest protection plans are put into action.

Further information on Greenpeace's proposal for a good funding mechanism:

<http://www.greenpeace.org/international/press/reports/tropical-deforestation-emissio>

http://www.greenpeace.org/international/press/reports/forests_for_climate_factsheet

http://www.greenpeace.org/international/press/reports/forests_for_climate_brochure

-
- ¹ Human Impact Report, Climate Change: Global Humanitarian Forum, Geneva. The Anatomy of A Silent Crisis, May 2009
www.gfhgeneva.org/Portals/0/pdfs/human_impact_report.pdf
 - ² Hare WL. (2009). A Safe Landing for the Climate. State of the World - Into a Warming World, Chapter 2. Worldwatch Institute.
www.worldwatch.org/files/pdf/SOW09_chap2.pdf
 - ³ Intergovernmental Panel on Climate Change Special Report on Emission's Scenario
<http://www.ipcc-wg3.de/activity/assessment-reports/ar4/.files-ar4/Dublin%20presentation%20IPCC%20WG%20III%20clean.ppt>,
accessed 12 October 2009
 - ⁴ IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA
 - ⁵ Asian Development Bank News Release, Climate Change Threatens Asia's Food Prices, Energy Security, Population Balance: ADB, 30 September 2009
<http://www.adb.org/Media/Articles/2009/13016-asian-climates-changes/>
 - ⁶ Asian Development Bank News Release, Climate Change Threatens Asia's Food Prices, Energy Security, Population Balance: ADB, 30 September 2009
<http://www.adb.org/Media/Articles/2009/13016-asian-climates-changes/>
 - ⁷ Calculated from: IPCC (2007). IPCC Fourth Assessment Report, Working Group III, Final Chapter 1. Page 104. Figure 1.2: Sources of global CO₂ emissions, 1970-2004 (only direct emissions by sector). <http://www.ipcc.ch/ipccreports/ar4-wg3.htm>
 - ⁸ Food and Agriculture Organisation of the United Nations (FAO 2005), Global Forest Resources Assessment 2005 (FAO, Rome, Italy).
www.fao.org/forestry/fra/fra2005/en/
 - ⁹ Solomon S. et al. (2007). Technical Summary. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
 - ¹⁰ FAO 2005. Global Forest Resources Assessment (FRA) 2005.
www.fao.org/forestry/fra/fra2005/en/
 - ¹¹ WRI 2008. Climate Analysis Indicators Tool (CAIT) Version 6.0 (Washington, DC: World Resources Institute)
<http://cait.wri.org>
 - ¹² Hooijer A, Silvius M, Wösten H, Page H and S (2006) PEAT-CO₂, Assessment of CO₂ emissions from drained peatlands in SE Asia
Delft Hydraulics report Q3943 7 December 2006
<http://www.wetlands.org/LinkClick.aspx?fileticket=NYQUDJI5zt8%3D&tabid=56>
 - ¹³ Hooijer A, Silvius M, Wösten H, Page H and S (2006) PEAT-CO₂, Assessment of CO₂ emissions from drained peatlands in SE Asia
Delft Hydraulics report Q3943 7 December 2006
<http://www.wetlands.org/LinkClick.aspx?fileticket=NYQUDJI5zt8%3D&tabid=56>
 - ¹⁴ Hooijer A, Silvius M, Wösten H, Page H and S (2006) PEAT-CO₂, Assessment of CO₂ emissions from drained peatlands in SE Asia
Delft Hydraulics report Q3943 7 December 2006
<http://www.wetlands.org/LinkClick.aspx?fileticket=NYQUDJI5zt8%3D&tabid=56>
 - ¹⁵ FWI/GFW (Forest Watch Indonesia/Global Forest Watch) 2002. The State of the Forest: Indonesia. Bogor, Indonesia: Forest Watch Indonesia and Washington DC: Global Forest Watch; FAO 2005. Global Forest Resources Assessment (FRA) 2005.
<http://www.globalforestwatch.org/common/indonesia/sof.indonesia.english.low.pdf>
 - ¹⁶ DNPI (2008) Indonesia GHG abatement cost curve, Media interaction National Climate Change Council (DNPI), 27 August 2009
 - ¹⁷ Pearce F (2007). Bog Barons, Indonesia's carbon catastrophe New Scientist, 1 December 2007, issue 2632
<http://www.newscientist.com/article/mg19626321.600-bog-barons-indonesias-carbon-catastrophe.html?full=true>
 - ¹⁸ Greenpeace calculation based on Wahyunto, Ritung S and Subagjo H. (2003). Maps of Area of Peatland Distribution and Carbon Content in Sumatera, 1990 – 2002. Wetlands International - Indonesia Programme & Wildlife Habitat Canada (WHC).
 - ¹⁹ Birdlife International
<http://www.birdlife.org/datazone/sites/index.html?action=SitHTMDDetails.asp&sid=15811&m=0>
accessed 12 October 2009
 - ²⁰ IUCN species profile *Panthera tigris* ssp. *sumatrae*
<http://www.iucnredlist.org/details/15966/0> accessed October 14 2009
 - ²¹ Eyes on the forest Maps and Data to Accompany Eyes on the Forest's Press Release
<http://www.worldwildlife.org/who/media/press/2009/WWFBinaryitem11893.pdf>
accessed 12 October 2009, page 2

-
- ²² Eyes on the forest report, March 2008 Eyes on the Forest to Asia Pulp & Paper: Cease all destruction of one of the world's largest tropical peatland forests – Kampar Peninsula in Riau, Sumatra, Indonesia Page 2. Accessed 12 October 2009
http://assets.panda.org/downloads/eof_news_on_app_in_kampar_final_english_25mar08_1.pdf
- ²³ Eyes on the forest report, March 2008 Eyes on the Forest to Asia Pulp & Paper: Cease all destruction of one of the world's largest tropical peatland forests – Kampar Peninsula in Riau, Sumatra, Indonesia Page 2. Accessed 12 October 2009
http://assets.panda.org/downloads/eof_news_on_app_in_kampar_final_english_25mar08_1.pdf
- ²⁴ Ministerial Decree 14/Permentan/PL.110/2/2009
- ²⁵ Greenpeace calculation based on Wahyunto, Ritung S and Subagio H. (2003). Maps of Area of Peatland Distribution and Carbon Content in Sumatera, 1990 – 2002. Wetlands International - Indonesia Programme & Wildlife Habitat Canada (WHC)
- ²⁶ Kampar Peninsula as a peat swamp forest conservation priority Briefing for NGO use only by Otto Miettinen, 21 July, 2007
<http://www.maanyastavat.fi/april/resourcesforkampar2007/Miettinen2007longKamparPeninsula.pdf>
- ²⁷ Developed by Sarvision-Wegeningen University (NL) in collaboration with the Indonesia Ministry of Forestry (2007)
- ²⁸ IFCA (2007) Strategies to Reduce Carbon Emissions from the Pulp and Paper and Plantation Sectors in Indonesia, Initial Draft, October 9, 2007, expert paper to IFCA, unpublished.
- ²⁹ Golden Agri Resources (2009) Financial Results Presentation for Year ended 31 December 2008, 27 February 2009
www.fao.org/forestry/fra/fra2005/en/
- ³⁰ APP claims to have set aside 875,000 ha out of these 2.2 million for conservation purposes. Sources: APP (2007) Sustainability Report 2005-2006
- ³¹ Riau Terkini Polda Riau Selidiki 15 Perusahaan Besar Lahannya Terbakar (Greenpeace translation: 15 Corporations under investigation because their field was burning) 19 August 2009
<http://riauterkini.com/hukum.php?arr=25627> Accessed 12 October 2009
- ³² NASA/University of Maryland (2002) MODIS Hotspot / Active Fire Detections. Data set. MODIS Rapid Response Project, NASA/GSFC [producer], University of Maryland, Fire Information for Resource Management System <http://maps.geog.umd.edu>; in 2006 and 2007 only Sinar Mas' oil palm concessions in Central Kalimantan had a total of 322 fire hotspots, based on NASA satellite data. In 2008, almost none of the active pulp concessions of Sinar Mas in Sumatra and Kalimantan were without fire hotspots.
- ³³ Government Regulation No 4/2001 about Control of Damage and or Environment Pollution related to Forest and Land fire article 11
- ³⁴ Irawan, S. 2007. RAPP, Arara Abadi and IKPP Receive Illegal Timber. Batam Today, 29th June 2007,
<http://www.batamtoday.com/siteme/index.php?mod=search&artid=8033&cid=&set=publish>
Accessed 14 November, 2008. Arara Abadi and IKPP are Asia Pulp & Paper (APP). companies.
- ³⁵ Ministry of Agriculture Indonesia (2009) Ministerial Decree (Peraturan Menteri Pertanian nomor): 14/Permentan/PL.110/2/2009; Presidential Decree No 32/ of 25 July 1990
- ³⁶ Friends of the Earth, Matthew E. (2001). Paper Tiger, Hidden Dragons. The responsibility of international financial institutions for Indonesian forest destruction, social conflict and the financial crisis of Asia Pulp & Paper.
http://www.foe.co.uk/resource/reports/paper_tiger_hidden_dragons.pdf
- ³⁷ APP (2007) 2005-2006 APP Environmental and Social Sustainability Report for Indonesia
- ³⁸ Bentrok Fisik, 500 Personil Polisi Usir Paksa Warga Suluk Bongkal, 19 December 2008,
<http://www.kompas.com/read/xml/2008/12/19/00365789/bentrok.fisik.500.personil.polisi.usir.paksa.warga.suluk.bongkal>
This article is unavailable in English. The information in this briefing is an unofficial interpretation of the article. For further reference refer to Jakarta Post Riau Police guilty of human rights abuses: Komnas HAM, 30 December 2008.
<http://www.thejakartapost.com/news/2008/12/30/riau-police-guilty-rights-abuses-komnas-ham.html>
Accessed 12 October 2009
- ³⁹ BusinessGreen (2008) Wal-Mart to reward green firms as some suppliers lag behind, BusinessGreen Staff, BusinessGreen, 12 February 2008
<http://www.businessgreen.com/business-green/news/2209400/wal-mart-reward-green-firms>
and WWF press release, Staples Inc. Ends Relationship with Asia Pulp & Paper
<http://www.worldwildlife.org/who/media/press/2008/WWFPresitem7631.html>
- ⁴⁰ APRIL 2008. Sustainability Report, p23.
<http://www.aprilasia.com/images/Updates/SustainabilityReport'08.pdf>, accessed 14 October 2009
- ⁴¹ WWF - WWF Monitoring Brief June 2006: Asia Pacific Resources International Holdings (APRIL).
http://assets.wwf.panda.org/downloads/wwf_mon_brief_june_2006_april.pdf
- ⁴² APRIL Sustainability Report 2008

⁴³ Protecting High conservation value forests – factsheet, November 2007 <http://www.aprilasia.com/images/stories/hcvf.pdf>

⁴⁴ The Jakarta Post 2008 Firm paid billions for illegal logs: Witness, Sat, 06/14/2008
<http://www.thejakartapost.com/news/2008/06/14/firm-paid-billions-illegal-logs-witness.html>

⁴⁵ The Jakarta Post Pulp and paper firms deny rights violations, Mon, 06/22/2009
<http://www.thejakartapost.com/news/2009/06/22/pulp-and-paper-firms-deny-rights-violations.html>