

# CORRUPTION, LAND CONFLICT AND FOREST DESTRUCTION

## AN ASIA PULP AND PAPER CASE STUDY FROM SUMATRA, INDONESIA

Pak Maharun is a tall man for Indonesian standards. His thick mustache, pleated slacks and dress shoes give him an air of authority that separates him from the other villagers of Desun Gembira. The three hundred and fifty families of this Sumatran community refer to Pak Maharun as their *Toko Masyarakat*, a title signifying respect and influence. He lives in a house without electricity or running water sitting on stilts over the Gaung River deep in the rainforests of the wild Kerumutan ecosystem an area of deep peatlands and natural forests adjacent to the Kampar peninsula (together, the Kampar-Kerumutan landscape constitute the largest and most threatened remaining natural forests peatland tropical ecosystem in the world). Over the past four years, however, Pak Maharun has found it difficult to find the time to tend his crops, run his clothing and cell phone business, or to keep his large family in order because he, as the *Toko Masyarakat*, has been consumed with mediating a conflict between his community and an affiliate of one of the world's largest timber companies: "I can not tell you how many times we have asked PT Bina Duta Laksana why? Why will they not give us back our land? Why have they punished us so? But they never answer."

PT Bina Duta Laksana (PT BDL) is an industrial logging and pulp wood plantation company that supplies tropical timber and plantation fiber to Asia Pulp and Paper (APP), Indonesia's largest pulp and paper company that has recently moved its headquarters to China. Three hundred kilometers away, the smokestacks of APP's Indah Kiat Pulp and Paper mill dominate the skyline. The mill is reportedly the second largest in the world.<sup>1</sup> Surrounded by ramshackle homes built of zinc siding and cinder block, Indah Kiat is positioned at the center of Asia Pulp and Paper's logging empire. Every day thousands of trucks carrying logs from APP's 36 wood pulp plantations in the surrounding provinces of Riau and Jambi enter the heavily guarded walls of Indah Kiat's compound.

Bulldozers neatly stack these logs into hundreds of piles, each spanning the equivalent of a city block. Across effluent pipes and chemical depots, cranes fitted with mechanical claws unload still more logs from 1000 ton barges neatly lined up along Indah Kiat's private river docks.

There is a good chance that if you chose to follow one of these barges back up river it would lead you into the Kerumutan Ecosystem, passing just meters from Pak Maharun's home. His village, Desun Gembira, is an enclave in APP's PT BDL pulp wood plantation, sandwiched between clear-cut forests and the black waters of the Gaung River. Since 2001, when APP acquired a wood pulp plantation permit for PT BDL from the Government of Indonesia without the community's consent, Pak Maharun and his village have been struggling to protect their community forests, farms and livelihoods from the voracious appetite of PT BDL and APP's Indah Kiat pulp mill. Standing on his dock, looking out over the ramshackle homes that line the river bank, Pak Maharun tells me, "PT Bina Duta Laksana has brought us nothing but disaster."



PAK MAHARUN, VILLAGE LEADER OF DESUN GEMBIRA, HAS FILED MULTIPLE LAWSUITS AND COMPLAINTS TO THE INDONESIAN GOVERNMENT ON BEHALF OF HIS COMMUNITY. PHOTO: DAVID GILBERT / RAN

# ASIA PULP & PAPER IS ENCROACHING INTO THE LAST OF INDONESIA'S WILD FORESTS

Before pulp plantations descended on this part of Sumatra, the Kerumutan Ecosystem was part of an unbroken canopy of tropical rainforests that covered the whole of the surrounding Riau province, connecting such well-known ecosystems as the Kampar, Tesso Nilo, and Bukit Tigapuluh. But little of this once immense rainforest landscape remains. Under Suharto's dictatorship (1965-1998), Riau was among the first provinces to be divided and sold to industrial logging and palm oil companies, sparking forest destruction and associated land rights conflicts at levels then unprecedented in Indonesia. Sumatra's rainforests became a tool for political control, handed out to maintain loyalty and enrich the powerful elites in Suharto's "New Order" regime in Jakarta. Military, government officials, and their corporate cronies established logging and plantation licenses in forests without due process or compensation for the ordinary people who had relied on those forests for generations. Instead, armed police and military used intimidation, arrest and violence to relocate and marginalize locals to make way for industry.<sup>2</sup>

Riau today has the largest number of wood pulp plantations in Indonesia -producing more than 60 percent of the country's wood pulp.<sup>3</sup> Twenty five years after the first logging concessions were issued, and with the most easily accessible trees gone, by 2009, an estimated 4.4million hectares (an area larger than the state of Rhode Island) of natural forest in Riau had been lost.<sup>4</sup>

After years of intensive selective logging, large numbers of logged-out forest concessions have closed or gone bankrupt. APP, however, continues to log. The company has leveraged their lasting government influence to take over old logging concessions and secure new licenses to drain the peatlands and convert the remaining natural rainforests into monoculture pulpwood plantations. The clear-cutting, road building, drainage and planting of the invasive and tenacious Acacia tree used in most of Indonesia's pulp plantations destroys forever the diverse rainforests that support global climate stability, habitat for tigers and other endangered species and provide nourishment to the residents of Desun Gembira and neighboring communities.

With PT BDL, APP is now grabbing land, decimating the farms, wetlands and forest lands once considered useless or unprofitable for the logging sector. The new frontiers and increased impacts of industrial pulp wood plantations are taking a serious toll on Riau's forests, leaving only 37 percent of the forest that existed in Riau in 1985.<sup>5</sup>



# THE CARBON-RICH PEAT DOMES OF RIAU AND APP'S MASSIVE CARBON FOOTPRINT

PT BDL, Desun Gembira, and the whole of the Kerumutan Ecosystem sit on top of one of the world's largest peat domes, built up over thousands of years as leaves and other debris have fallen to the forest floor. Peat soils have been identified as a key component of global climate stability, storing carbon captured by the world's rainforests in stable carbon banks and preventing its release into the atmosphere.

The destruction of peat lands is not limited to PT BDL; in Riau alone APP owns at least nine concessions on deep peat and sources wood pulp from many more additional suppliers linked to the destruction

of peatlands.<sup>6</sup> With depths of 15 meters, the peat domes of Riau – the Keremutan, the Kampar, Giam Siak Kecil, and the Senipis, all hold several billion tons of carbon and are arguably the most carbon rich ecosystem in the world.<sup>7</sup> Over the past ten years APP's clearing and draining of Riau's peat domes has emitted roughly half Australia's annual emissions.<sup>8</sup> On a national scale, Indonesia government estimates show that natural forest and peatland degradation and loss emit about 1.6 billion tons of CO<sub>2</sub> every year, a quantity greater than the total annual emissions of India and equal to almost 6 percent of global fossil fuel emissions in 2005.<sup>9 10</sup>

## CALLS TO PROTECT AND EXPAND ONE OF SUMATRA'S GREAT RESERVES

Much of the Kerumutan's forests are classified as 'Protected Forest' (*Kawasan Lindung*) by the Government of Indonesia in order to preserve some of the most productive, diverse and carbon rich habitats on earth. The Kerumutan provides a watershed abundant in fish, peat soils rich in nutrients, forest timber for constructing homes and canoes, and a wide range of non-timber forest products, such as fruits, vines, rubber, and resins, to be gathered and sold.

The peat forests of the Kerumutan are preferred Sumatran Tiger habitat, a subspecies of tiger listed as critically endangered by the International Union for Conservation of Nature. Only about 400 individual tigers remain in the wild. Habitat loss and fragmentation are the greatest threat to the long-term survival of this iconic species.<sup>11</sup> The Kerumutan's 1,300,000 hectares – more than twice the size of New York City – makes it one of the last habitats that can support a viable Sumatran tiger population, now numbering perhaps fifty individuals. Because of this, the Wildlife Conservation Society ranked the Kerumutan among the top ten most important tiger habitats in the world.<sup>12</sup>

But the Kerumutan's protection zone status awarded by one part of the National Government has not stopped companies from invading this refuge with licenses from other parts of the government. Already, habitat destruction and fragmentation inside the protected area has driven the Kerumutan's Sumatran Elephant to local extinction.<sup>13</sup> Nearly 100 percent of PT BDL is located on areas zones as protected forest.

National and international NGOs have called for the government of Indonesia to annul the PT BDL forest concession and prevent conversion of the last remaining peatlands and natural forests in neighboring license areas already granted in the Kerumutan. Little forest lies outside of the eight pulp wood and oil palm licenses surrounding the reserve, six of which are held by APP and its suppliers. Only with these last forests intact, experts maintain, will the Kerumutan Preserve be large enough to support a viable population of Sumatran Tigers and many economically valuable ecosystem functions.<sup>14 15</sup>

# APP SILENCES LOCAL COMMUNITIES' CLAIMS TO TRADITIONAL LAND

At PT BDL, the logging, bulldozing and cutting of drainage canals is almost complete. Of the concession's 38,000 hectares, only 8,000 hectares of forests are still standing. Pak Maharun and hundreds of villagers have held vocal protests and traveled down-river three hours to meet with government officials; illiterate community members have affixed their thumb print to the bottom of letters Pak Maharun has sent to APP requesting compensation for the destruction of their fishery, farms, and community forest. But Pak Maharun says: *"The company tells us they must plant Acacia. But the people, we do not want Acacia. We can not find a solution, the situation stays the same."*

Unfortunately, Pak Maharun's situation is not uncommon in Indonesia. Most neighboring villages and communities impacted by pulp and paper across the country have similar grievances. Because of their large footprint and severe environmental impacts, wood pulp plantations are among the leading causes of land conflicts in Indonesia.<sup>16</sup> Villagers like Pak Maharun have little education and no resources to mount a court battle, and so local communities throughout Indonesia have been unable to secure enforcement of their emerging constitutional rights or traditional claims to community forests.<sup>17</sup> Local communities have long contested APP's claims to the forests that the company is currently logging; Pak Maharun has been writing letters to the district level government since 2002, when APP began operating PT BDL on the community of Desun Gembira's land. According to local NGO Jikilahari, APP established PT BDL on land unlawfully seized from at least 30 Indigenous Malay and Sakai communities of the Kerumutan, without due process, compensation or consent.<sup>18</sup>

*"We had no idea PT BDL was coming here. We only found out when we saw them building a road through our forest."* Pak Maharun claims. *"We have written letters to the company, to the local government, to the governor, but no one is brave enough to help us."* Without the consent of the community, the company maintains its operations through brute force. In turn, the villagers of Desun Gembira often frame their struggle against PT BDL using words like bravery (*brani*) and fear (*takut*), reflecting the militarization of their community forests. Villagers count over 100 police and private security posts inside PT BDL. APP



IBU BINATON, GRANDMOTHER TO 12 CHILDREN, SAYS THAT ASIA PULP AND PAPER'S PT BDL TIMBER PLANTATION HAS DESTROYED THE ECONOMY OF HER VILLAGE. NOW, WITHOUT HER VILLAGE'S FORESTS AND RIVERS, SHE DOES NOT KNOW IF THE COMMUNITY WILL BE ABLE TO PAY FOR SENDING THEIR CHILDREN TO SCHOOL. PHOTO: DAVID GILBERT / RAN

security boats carry out daily patrols of the Gaung River accompanied by police and the Indonesian military, arresting villagers for entering into the remaining stands of peat forest near Desun Gembira to fish, gather forests products, or to cut a tree for a new canoe. Pak Maharun spends at least one day a week negotiating with APP and local police for the release of young Desun Gembira men that have been apprehended fishing or cutting timber in the last of PT BDL's forests.

APP considers local uses of these forests as a threat to the revenues the company derives from natural timber and pulp production, and the company strictly prevents locals from accessing the industrial license area. In a pattern seen across hundreds of forestry operations, APP, working with local government actors, has criminalized the simple routines of sustenance on the land that has supported the community of Desun Gembira for generations.



## HUMAN – TIGER CONFLICT

Although the locals at Desun Gembira rarely see tigers and their tracks are hard to find on the swampy forest floor, increasingly, as their home ranges are converted to wood pulp plantations, the Kerumutan's tigers are starving and searching for prey in the area's villages. Consequently, the Kerumutan has seen a dramatic rise in tiger attacks since APP began establishing plantations here. In February 2009, a tiger killed a man working in his fields just a few minutes up river from Desun Gembira. Three more attacks were reported in the Kerumutan in 2010.<sup>19</sup> In the whole of Riau, there have been 55 fatal tiger attacks since 1997, half of which took place around APP wood pulp plantations.<sup>20</sup>

# A SYSTEMATIC PATTERN OF FOREST CRIME

With PT BDL's industrial pulp plantation license, the Government of Indonesia awarded the APP affiliate the right to plant and harvest Acacia for a period of 100 years. Under the logging license agreement, companies must report and pay taxes on all natural timber harvested, a requirement that, APP has reportedly often ignored.<sup>21</sup>

The PT BDL concession was rainforest of high conservation value before the arrival of APP's chainsaws. Satellite analysis carried out by WWF shows that PT BDL was at least 80 percent natural forest cover before APP brought in their bulldozers, excavators, and chainsaws,<sup>22</sup> and analysis by Riau's Forest Rescue Network (*Jikalahari*), shows that the concession contained at least 40 cubic meters of standing trees per hectare. That suggests that the PT BDL logging concession was in violation of the Indonesian legislative framework designed to limit the impacts of industrial plantation forestry on natural forests in Indonesia prior to 2010.<sup>23</sup>

In 2007, Riau's police command opened an unprecedented investigation into the illegal license issuance and the forest cutting carried out by 14 wood pulp plantations, over half of which supply wood to APP's Indah Kiat pulp and paper mill.<sup>24</sup> Included among the 14 plantations being investigated for illegalities was APP's PT BDL.

News that PT BDL continued to clear forests during the moratorium caught the attention of Riau's top police officer, Brigadier General of Police Dr. Sutjiptadi, and he made a surprise visit by helicopter in 2008. Standing in a clear-cut that stretched to the horizon and surrounded by thousands of felled tropical hardwoods, Sutjiptadi made a unequivocal statement, video recorded by his police staff: *"The wood here behind me violates the criteria of a HTI [industrial pulpwood plantation]. The operators have cut trees from natural forest without permission. There are*

*millions of cubic meters of timber here that does not have the proper permits. This wood does not follow our laws. We are impounding all this wood."*<sup>25</sup>

Evidence uncovered by international NGO's confirms the Brigadier General's concerns that APP was violating the HTI operating criteria and cutting natural forest without a Timber Cutting Permit (IPK). According to a study done by the International Development Law Organization, APP did not complete an Environmental Impact Report, as required under Indonesian law,<sup>26</sup> and PT BDL was clearing forests on peat soils more than three meters deep. In fact, analysis by WWF showed that 94 percent of the PT BDL concession is on peat deeper than four meters.<sup>27</sup> At least six Indonesian regulations placed APP's affiliate PT BDL outside of the law, and many observers expected the Brigadier General Sutjiptadi's investigation to lead to the closure of the PT BDL operation and arrests of key APP plantation managers.



LOGGING ROAD AND DRAINAGE CANAL THROUGH PULP PLANTATION INTO NATURAL FOREST: KAMPAR PENINSULA, RIAU PROVINCE, SUMATRA, INDONESIA

## INDONESIAN LEGISLATION PROTECTING PEAT

Recognizing the importance of peat forests for water systems and the role they play in limiting the carbon emissions that cause climate change, the Indonesian government has taken a series of strong actions to prevent their destruction. Presidential decree 32 (1990),<sup>28</sup> Indonesian Law 47 (1997), and Forestry Law 41 (1999) prevent the destruction of deep peat forests to create wood pulp or oil palm plantations. Layers of the organic debris peat forests grow upon can be up to 30 feet deep, but Indonesian law protects all peat that is three meters or deeper.<sup>29</sup> Indonesian Law 26 of 2008 goes a step further and classifies all deep peat areas "National Protection Forests."<sup>30</sup> Most recently, in December 2009, the Indonesian National Development Planning Agency (BAPPENAS) commissioned a report<sup>31</sup> that argues for the protection of Indonesia's peatforests to be an issue of national priority in the effort to reduce Indonesia's greenhouse gas emissions.

CARBON RICH PEATLAND FORESTS; KERUMUTAN PENINSULA; RIAU PROVINCE, SUMATRA INDONESIA. PHOTO: GREENPEACE

# APP UNACCOUNTABLE, AND IMPLICATED IN WEB OF CORRUPTION AND DEFORESTATION

With logging on hold in Riau during all of 2008 and APP's major Sumatran timber affiliates under investigation for illegal logging, reform in Riau's wood pulp plantation sector seemed imminent. In September 2008, the District Head of the Pelalawan district in Riau, known as a *Bupati*, was convicted of embezzlement for accepting bribes in return for issuing industrial pulpwood plantation licenses (HTIs) to APP and others on natural forests. The District Head, Tengku Azmun Jaafar, was sentenced to 11 years in jail.<sup>32</sup> Around the same time, Riau police handed the evidence they had gathered on APP, their affiliates and others to Indonesian prosecutors. After a year of silence, the transfer of the head of the investigation, and inaction, however, it became clear that Indonesia's judiciary was unwilling to bring APP and others to court. Losing momentum and coming under increasing political pressure, a 'SP3' letter was issued at the end of 2008 officially ending investigations into 13 of the 14 companies under suspicion of bribery and illegally logging Riau's rainforests, including Brigadier General of Police Dr. Sutjiptadi's investigation at PT BDL.

Two years later, local communities and NGO watchdogs are pushing to reopen these cases, which implicated over fifty high-ranking government officials, judges, and Riau's own police force in addition to APP and others. "We think the decision to stop the investigation is controversial and suspect that a 'forestry mafia' is involved," said Febri Diansyah, legal coordinator at Indonesia Corruption Watch. Febri repeated the charges leveled against public officials and companies, including alleged abuse of power in issuing permits and paying bribes to central and local government officials to the media in 2010.<sup>33</sup>

Corruption in Indonesia's forestry sector and judiciary has been documented by Human Rights Watch, the Center for International Forestry Research (CIFOR), the Environmental Investigation Agency,

and the Indonesian NGO Telepak among others. It is a tool used by companies such as APP to grab land, clear-cut natural forests and violate Indonesian law with impunity. Telepak and Indonesian Corruption Watch have identified numerous cases where loggers have purchased a 'SP3' letter outright to end police investigation into their illegal activities.<sup>34</sup> In the Indonesian courts, evidence is flexible, witnesses have a price, prosecutors bend the law, and judges are corruptible.<sup>35</sup> In 2003, the United Nations Rapporteur on Judicial Independence decried corruption in the judiciary in Indonesia as "...among the worst I have seen."<sup>36</sup>

APP has leveraged its political connections and financial resources to exploit the corruptibility of Indonesia's forestry sector. Technically, all of APP's pulp wood plantations should be located on degraded lands and avoid peat lands greater than three meters, as per Indonesian law. However, as with the case of PT BDL, APP has successfully gained multiple plantation licenses on sites with large natural forests on deep peat and with high conservation values. Because the royalty payments for plantation timber are based on the assumption no large rainforest timber is available for harvest, the stumpage fees paid by APP to the Indonesian government have been negligible (as low as USD 2 per metric tonne), and APP has acquired sources of timber to feed their massive Indah Kiat pulp and paper mill at costs well below that of planting and harvesting Acacia.<sup>37</sup> By avoiding the fees of the permitting process and Indonesia's timber taxes, APP has used its deep reserve of unaccounted money for further expansion, driving the continuing deforestation of Indonesia's natural forests. During the 1990s, Indah Kiat expanded their pulp production capacity from 120,000 to 925,000 tonnes per year. During the same period, APP avoided paying an estimated USD 90 million in taxes through transfer pricing, lax enforcement and opaque accounting, paying no corporate income tax whatsoever to the Government of Indonesia.<sup>38</sup>

# PULP AND PAPER, DRIVING LOSS OF LANDS AND LIVELIHOODS

Villagers from Desun Gembira maintain that their ancestors have lived in the Kerumutan for generations as fishermen and gatherers of forest products. During a nationwide movement to count and incorporate all of the country's settlements in 1977, Desun Gembira was officially recognized as a settlement by the Indonesian government. Around this time, as migrants from crowded Java populated the Gaung River and a central market emerged two hours up river, Desun Gembira capitalized on their traditional knowledge as fishermen and tapped into expanding trading markets. Pak Maharun and others increased their fish catch and began selling their hand built canoes. Made from local timber, the community quickly found their craftsmanship in demand. The community began planting coconut as a cash crop while planting subsistence crops like rice, corn, eggplant, and rubber. Diversified incomes provide food security and, while villagers like Pak Maharun maintained a rural lifestyle, generators, televisions, motorbikes, and cell phones – all concrete measures of wealth in Indonesia – became common. As the coconut trees matured and their canoes become known, Desun Gembira moved beyond subsistence and started to make inroads into Indonesia's rural middle class. Pak Maharun and others began sending their children to university in the larger cities of Sumatra. Relying on just a few hectares of farm land per family and the community's forests and rivers, Desun Gembira seemed to have reach a milestone in rural development; for the first time in their history, villagers were generating enough income to support a university education for their children, all while utilizing agroforestry systems that maintained food security and self reliance.

But APP's arrival brought a sharp halt to the community's prosperity. *"I had my son in university. In his second year. But with my coconut gone, my land taken, how could I pay for him?"* Pak Dain says during a meeting of villagers at Pak Maharun's home. Pak Dain's story was repeated again and again by the other men sitting around the room. Drinking coffee and smoking clove cigarettes by candlelight, this group of elders report that their community has lost 70 percent of their income since APP's arrival. They attributed their losses to the clear-cutting of their forests and seizure of their agricultural land. For the thousands of people living around the poverty line at Desun Gembira, losing their forests, fish, farms and coconuts to APP was a deathblow.



PAK NORANI, OF THE VILLAGE DESUN GEMBIRA, WORKS WITH OTHER COMMUNITY MEMBERS AS BOATMAKERS. THEY SAY THAT THEIR LIVELIHOOD HAS BEEN DESTROYED BY ASIA PULP AND PAPER (APP), WHEN APP CLEARED THE FORESTS THEY RELIED ON FOR TIMBER TO MAKE BOATS, PART OF THEIR CUSTOMARY LANDS, WITHOUT PERMISSION OR COMPENSATION. WITH THE WOOD RUNNING OUT, PAK NORANI SAYS HIS FAMILY WILL BE DESTINED FOR POVERTY. PHOTO: DAVID GILBERT/RAN

Thirty million Indonesians rely on forest resources for their livelihoods.<sup>39</sup> APP claims to create thousands of jobs and offer a path to development for Indonesian society. But instead, as APP and other companies expropriate their rainforests and agricultural lands, many of these thirty million Indonesians lose their forests, food security and livelihoods. According to *Jikalahari*, the area in Riau currently encompassed in registered pulp and paper and palm oil licenses is greater than the total land area of the province itself.<sup>40</sup> With so much of Riau's available land

PAK AHKMAT, A FISHERMAN AND FARMER FROM THE VILLAGE DESUN GEMBIRA, SAYS THE RIVERS HE DEPENDS UPON FOR SURVIVAL HAVE BEEN DESTROYED BY FOREST CLEARING AT ASIA PULP AND PAPER'S PT BDL TIMBER PLANTATION, WHICH IS LOCATED ON TOP OF HIS COMMUNITY'S LAND. PHOTO: DAVID GILBERT / RAN



controlled by corporations, common Indonesians, unprepared and often times unwilling to work as day laborers paid two dollars a day, lose access to the natural resources that have sustained them for centuries. Perhaps it is Desun Gembira's venture into the rural middle class, with their exposure to university educations and skilled employment building boats, that has put this community in the heart of the Kerumutan fight so hard to regain what APP has taken from them. Too soon, though, there will be nothing left to reclaim. APP has almost completed their clear-cutting of Desun Gembira's forests and the community will have to adapt, or face unemployment, food insecurity and subjugation. As Norani, a Desun Gembira boatmaker puts it, "There are no more big trees left. How can we make our canoes? The company does not think of us. Now everything is gone."

Norani knows APP is required to respect his community's forests, just as the Brigadier General of Riau's police knows that DBL is violating Indonesian law. But still, APP continues to expand with growing financial resources and insider powers resulting in weakened rule of law, massive deforestation, climate emissions and the loss of community livelihoods.

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## ENDNOTES

- 1 Carrere, R and Lohmann, L. 1996 *Pulping the South: Industrial Tree Plantations in the World Paper Economy* (London and New Jersey, Zed Books Ltd.)
- 2 Human Rights Watch 2003 *Without Remedy* (Washington DC, Human Rights Watch)
- 3 WWF 2006 *WWF Monitoring Brief June 2006: Asia Pulp and Paper (APP)* (Jakarta, WWF-Indonesia)
- 4 WWF 2010 *Sumatra's Forests, their Wildlife and the Climate, Windows in Time: 1985, 1990, 2000 and 2009*
- 5 WWF 2010 *Sumatra's Forests, their Wildlife and the Climate, Windows in Time: 1985, 1990, 2000 and 2009*
- 6 WWF 2010 *Sumatra's Forests, their Wildlife and the Climate, Windows in Time: 1985, 1990, 2000 and 2009*
- 7 Hootijer A, Silvius M Wösten H, and Page, S 2006 PEAT-CO<sub>2</sub>, *Assessment of CO<sub>2</sub> emissions from drained peatlands in SE Asia*. Delft Hydraulics report Q3943 (2006).
- 8 Uryu Y et al. 2008 *Deforestation, Forest Degradation, Biodiversity Loss and CO<sub>2</sub> Emissions in Riau, Sumatra, Indonesia* (Jakarta, WWF-Indonesia)
- 9 DNPI 2010 Indonesia's Greenhouse Gas Emissions Cost Curve [http://www.dnpi.go.id/report/DNPI-Media-Kit/reports/indonesia-ghg\\_abatement\\_cost\\_curve/Indonesia\\_ghg\\_cost\\_curve\\_english.pdf](http://www.dnpi.go.id/report/DNPI-Media-Kit/reports/indonesia-ghg_abatement_cost_curve/Indonesia_ghg_cost_curve_english.pdf)
- 10 Climate Analysis Indicators Tool (CAIT) version 6.0. (Washington, DC: World Resources Institute, 2009). Available at <http://cait.wri.org>.
- 11 Linkie M, Wibisono H T, Martyr D J, and Sunarto S 2008. *Panthera tigris* spp. *sumatrae*. In: IUCN 2009. IUCN Red List of Threatened Species. Version 2009.2.
- 12 Sanderson E, J, Forrest C Loucks J, Ginsberg E, Dinerstein J, Seidensticker P, Leimgruber M, Songer A., Heydlauf T, O'Brien G, Bryja S, Klenzendorf, and Wikramanayake E 2006 *Setting Priorities for the Conservation and Recovery of Wild Tigers: 2005-2015. The Technical Assessment* (New York – Washington, D.C., WCS, WWF, Smithsonian, and NFWF-STF)
- 13 Uryu Y et al. 2008 *Deforestation, Forest Degradation, Biodiversity Loss and CO<sub>2</sub> Emissions in Riau, Sumatra, Indonesia* (Jakarta, WWF-Indonesia)
- 14 Personal Comment by Johnny Mundur. President, YASA. Riau, Indonesia. December 09.
- 15 Eyes on the Forest 2010 *Investigative Report: December 2009* (Pekanbaru, Eyes on the Forest)
- 16 DetikNews 2008 *Permasalahan Tanah di Indonesia Mencapai 7491 Kasus 11/28/2008* (Jakarta, DetikNews)
- 17 Human Rights Watch 2003 *Without Remedy* (Washington DC, Human Rights Watch)
- 18 JIKALAHARI 2008 *Legal Analysis: PT Bina Duta Laksana Indragiri Hilir District, Riau Province* (Pekanbaru, JIKALAHARI)
- 19 WWF 2009 *Press Release: Forest Clearance by Paper Giant APP/Sinar Mas Linked to 12 Years of Sumatra Tiger – Human Fatalities* (Pekanbaru, Indonesia, WWF-Indonesia)
- 20 WWF 2009 *Press Release: Forest Clearance by Paper Giant APP/Sinar Mas Linked to 12 Years of Sumatra Tiger – Human Fatalities* (Pekanbaru, Indonesia, WWF-Indonesia)
- 21 WWF 2004 *Legality of timber consumed by Asia Pulp and Paper's Mills in Indonesia: January – October 2003* (Jakarta, WWF-Indonesia)
- 22 WWF 2006 *WWF Monitoring Brief October 2006: Asia Pulp and Paper (APP)* (Jakarta, WWF-Indonesia)
- 23 JIKALAHARI 2008
- 24 Eyes on the Forest 2009 *Legally questionable forest clearing by APRIL threatens peat swamp forests of the Kerumutan, critical for Sumatran tigers, local people, and the global climate* (Pekanbaru, Eyes on the Forest)
- 25 Riau Forest Police 2008 Video: *Polda Illegal logging investigation video* (Pekanbaru, Indonesia. Riau Forest Police Riau)
- 26 International Development Law Organization 2006 *Strengthening environmental law compliance and enforcement in Indonesia: Development law update Issue 6, 2006* (Rome, International Development Law Organization)
- 27 WWF 2006 *WWF Monitoring Brief October 2006: Asia Pulp and Paper (APP)* (Jakarta, WWF-Indonesia)
- 28 See: Keputusan Presiden No. 32 Tahun 1990 (Available at: [http://www.wg-tenure.org/file/Peraturan\\_Perundangan/Keppres\\_32\\_1990.pdf](http://www.wg-tenure.org/file/Peraturan_Perundangan/Keppres_32_1990.pdf))
- 29 See: Peraturan Pemerintah Republik Indonesia Nomor 47 Tahun 1997 Tentang Rencana Tata Ruang Wilayah Nasional. (Available at: [http://www.bakosurtanal.go.id/upl\\_document/perpres/artikel/PP47-1997.pdf](http://www.bakosurtanal.go.id/upl_document/perpres/artikel/PP47-1997.pdf))
- 30 See: Peraturan Pemerintah Republik Indonesia Nomor 26 Tahun 2008 Tentang Rencana Tata Ruang Wilayah Nasional (Available at: <http://digilib-ampn.net/file/pdf/PP%20No.26%20Tahun%202008.pdf>)
- 31 Indonesian National Development Planning Agency (BAPPENAS) 2009 *Reducing Carbon Emissions From Indonesia's Peatlands: Interim Report from a Multi-Disciplinary Study* (Jakarta, Indonesia, BAPPENAS)
- 32 Eyes On the Forest 2008 *District Head sentenced to 11 year imprisonment. Sept. 17, 2008* (Accessed at: [http://eyesontheforest.or.id/index.php?option=com\\_content&task=view&id=201&Itemid=6](http://eyesontheforest.or.id/index.php?option=com_content&task=view&id=201&Itemid=6) on Feb 5, 2010).
- 33 Jakarta Globe 2010 *Officials Accused of Ending Probe in Riau Logging Case April 22, 2010* (Jakarta, Jakarta Globe)
- 34 EIA and Telepak 2007 *The 1000 Headed Snake: Forest Crimes, Corruption, and Injustice in Indonesia* (London, EIA and Telepak)
- 35 Human Rights Watch 2009 *Wild Money: The Human Rights Consequences of Illegal Logging and Corruption in Indonesia's Forestry Sector* (New York, Human Rights Watch)
- 36 Jakarta Post 2002 *RI Judiciary Worse than First Thought: UN Rapporteur July 22, 2002* (Jakarta, 2002)
- 37 Barr C et al. 2009 *Financial Governance and Indonesia's Reforestation Fund During the Soeharto and Post Soeharto Periods 1989-2009* (Jakarta, Center for International Forestry Research)
- 38 Barr C 2000 *Profits on Paper: The International-Economy of Fiber, Finance, and Debt in Indonesia's Pulp and Paper Industries* (Jakarta, Center for International Forestry Research)
- 39 World Resource Institute 2002 *State of Indonesia's Forests* (New York, World Resource Institute)
- 40 JIKALAHARI Personal Comment by Executive Director Susanto Kurniawan 2009



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