

**Patronage politics, plantation fires and transboundary haze**

By HELENA VARKEY

Since 1982, haze pollution has become an almost annual occurrence in Southeast Asia, with the worst episodes being in the period of 1997–1998 and in 2006–2007. Haze originates from peat and forest fires, mostly in Indonesia. The negative effects of haze can be observed at the global level, with increased carbon emissions exacerbating climate change, and more importantly at the regional level, with serious environmental and socioeconomic effects in Indonesia and its neighbouring countries. Most of these fires are manmade, and can be traced back to land clearing activities of commercial oil palm plantations. This article questions why these companies have been able to burn with such impunity, even though using fire for land clearing is against Indonesian law. It argues that local and foreign plantation companies have cultivated strong patronage linkages with key patrons among the ruling elite. Hence, patrons are encouraged to protect their clients from the repercussions of their actions. This weakens the power of the state in terms of law enforcement, where national laws against the use of fire are thus rendered useless in the face of powerful economic interests. Well-connected companies therefore continue to use fire as a cost-efficient way to clear land while disregarding its serious environmental and socioeconomic implications.

Keywords: haze pollution; forest fires; oil palm; Indonesia; patronage; environmental law

## **Patronage politics, plantation fires and transboundary haze**

### **Introduction**

Haze is defined as ‘sufficient smoke, dust, moisture, and vapour suspended in air to impair visibility’. Haze pollution is transboundary when ‘its density and extent is so great at the source that it remains at measureable levels after crossing into another country’s airspace’ (ASEAN Secretariat, 2008). Since 1982, this ‘haze’ pollution developed into an almost annual occurrence in the region, with the worst episodes being in the period of 1997 to 1998 and in 2006 to 2007 (Suwarsono *et al.*, 2007, p. 1, ASEAN Secretariat, 2008). The negative effects of haze pollution can be observed at the global level, with increased carbon emissions exacerbating climate change, and at the regional level, within serious socioeconomic effects in Indonesia and its neighbouring countries.

Haze originates from peat and forest fires, mostly in Indonesia. Previous research has shown that most of these fires are manmade, and most can be traced back to land clearing activities of commercial oil palm plantations there. This article addresses the question of why these companies have been able to burn with such impunity, even though using fire for land clearing is against Indonesian law. This article argues that these plantation companies have cultivated strong patronage linkages with key patrons among the ruling elite, which have protected them from the repercussions of their role in causing such an environmental hazard.

The first section details the link between haze-producing fires and oil palm plantations in Indonesia. The second section explores known patronage linkages within the sector, discussing the importance of these linkages in context of facilitating the use of fire. The third section reviews the Indonesian laws concerning land clearing, especially those pertaining to the use of fire. The fourth section then discusses how weaknesses of these laws provide strategic advantages to these firms to get away with open burning. The fifth section goes on to discuss burning laws in the context of decentralization, and how this decentralization (and the decentralization of patronage networks) has further complicated effective enforcement of these laws. The sixth section gives examples of how various well-connected Indonesian, Malaysian

and Singaporean plantation companies have, with the assistance of their patrons, managed to escape investigation and conviction of open burning allegations. The final section discusses recent revisions to burning laws, and how despite this, burning laws still cannot be implemented effectively due to patronage influence.

### **Forest fires and haze in Indonesia**

Forest fires in Indonesia have been extensively recorded since the 19<sup>th</sup> century (Eaton and Radojevic, 2001). However, the extent of the fires in 1997-1998 was the worst Indonesia had seen in 50 years (*Jakarta Post*, 1998). These fires resulted in an estimated 10 million hectares burned around Indonesia (*Jakarta Post*, 2009), destroying forests and bushland, including conservation areas and national parks (Dauvergne, 1998). Forest fires have severe impact on the surrounding environment, affecting biodiversity, the natural hydrological cycle, the microclimate, and air quality due to smoke haze (World Investment Report, 2009).

Satellite images from the Centre for Remote Imaging, Sensing and Processing in Singapore in 2004 have provided strong evidence linking fires to the deliberate actions of oil palm plantation companies (Lee [S20], 2010, Moore [I5], 2010, Surya [I9] and Akbar [I10], 2010, Syaf [I27], 2010, Tan [S7], 2010)<sup>1</sup>. Hotspot maps superimposed over concession maps suggest that many plantation companies were systematically setting fire to both peatlands and other areas for land clearing (Chiew [M15], 2010, Ramakrishna [M20], 2010, Arif [I41], 2011). The biggest fires were found to be either directly or indirectly related to companies' land clearing activities (Colfer, 2002). Evidence of previous systematic burning has also been found on plantation land through charcoal fragments (Fairhurst and McLaughlin, 2009). Based on satellite data, it is estimated that 80% of the fires were set by plantation companies or their sub-contractors for land clearing purposes, while the remaining 20% were set by slash-and-burn farmers (Tan [S7], 2010, Rukmantara [I45], 2011).

Fire is the cheapest and fastest method to clear land in preparation for planting (Caroko et al., 2011). Fire is used to flatten the stumps left over from logging and old crops, as well as to clear smaller vegetation (Dauvergne, 1998). In contrast, the method of mechanically 'windrowing'

remaining timber, by raking them up into large long piles and letting them rot over time, is expensive and slow, and also could harbour pests and vermin (Rowland [I39], 2011). Fire is also useful in disposing of unwanted agricultural by-products that have no apparent use or value, such as straw and husks (Applegate et al., 2002). The ash produced is also believed to give a shot of fertilizer to the soil. Clearing degraded land with machines and chemicals can cost up to USD 200 per hectare (Dauvergne, 1998), while clearing land using fire costs a mere USD5. Sometimes plantations companies also purposely light fires to reclassify forestland and native customary land as degraded land, so that they can be legally converted into plantations (Casson, 2002, Colfer, 2002). These deliberate fires can get out of control and spread to a wider area than intended, often spreading outside plantation areas and destroying pristine forests.

Therefore, it was widely accepted that the 1997 haze around the Southeast Asian region, and the other haze events following that, was caused primarily by smoke coming from deliberate large-scale commercial burning for land clearance and conversion into oil palm plantations (Casson, 2002, Colfer, 2002, Fairhurst and McLaughlin, 2009, Tan *et al.*, 2009, Caroko *et al.*, 2011). However, as this article will detail below, rarely do these plantation companies get prosecuted, even though it is against Indonesian law to clear land using fire. This article argues that these plantation companies have cultivated strong patronage linkages with key patrons among the ruling elite, which have protected them from the repercussions of their role in causing such an environmental hazard.

### **Patronage networks in the Indonesian oil palm sector**

Patronage politics have been a dominant characteristic of the societies in Southeast Asia and especially Indonesia (Enderwick, 2005), so much so that patronage ties are a legitimate, accepted, even expected part of the economic process in the region (Dauvergne, 1995). Patronage politics can be defined as ‘a special case of dyadic (two-person) ties involving an instrumental friendship in which an individual of higher socioeconomic position (patron) uses his own influence and resources to provide protection or benefits, or both, for a person of lower status (client) who, for his part, reciprocates by offering general support and assistance, including personal services, to the patron’ (Scott, 1972). Strong patronage networks make it easy for the

well-connected clients to skirt, resist, or even ignore state policies (Dauvergne, 1995). Because of this, powerful businessmen with good patronage ties have no reason to fear punishment, as the law will be disregarded and wrong-doing may become the norm (Kurer, 1996). In this way, corrupt patronage politics foster a culture of impunity and make it difficult to punish individuals for corrupt behavior.

Therefore, it is common among the top tiers of Indonesian plantation firms to have ‘functional directors’ appointed to perform ‘extra-economic functions’ (Gomez, 2009), and ‘advisors’ who are elected on a retainer basis. Indonesia adopts a two-tier management structure, comprising a board of directors and a board of commissioners. Officially, the former manages and represents the company and the latter supervises the directors (Rajenthiran, 2002). However, in reality, members of the board of commissioners (and sometimes also board of directors) are typically retired senior bureaucrats (*mantan*) who could act as intermediaries with the state and perform ‘advisory and brokerage functions’ on behalf of the company when needed (Surya [I9] and Akbar [I10], 2010, Syaf [I27], 2010, Tarigan [I23], 2010, Anshari [I42], 2011, Arif [I41], 2011). In other words, they are elected to the post by virtue of their connections.

For example, one of the directors of the Indonesian plantation company, Bakrie Sumatra Plantations (BSP) is Bungaran Saragih, who formerly served as Minister of Agriculture under two Indonesian cabinets. A former Minister of Agriculture, Dr. Anton Apriyantono, is also a commissioner for BSP (Bakrie Brothers, 2010). Also, chairman of the Bakrie and Brothers Group, parent company of BSP, is Aburizal Bakrie, who is also the chairman of the strongest and most influential political parties in Indonesia, Golkar (*Golongan Karyawan* or the Party of the Functional Groups) (Yansen [I43], 2011). Aburizal Bakrie is known for his close relationship with Ginandjar Kartasasmita, an Indonesian politician and former speaker of the *Dewan Perwakilan Rakyat Daerah* (DPRD, or Regional House of Representatives). He was also a former secretary general of the Indonesian president’s Economic and Financial Resilience Council (Eklof, 2002). In the case of the Indonesian plantation company Duta Palma, a 30% ownership by the Indonesian military has meant that many prominent former military men have positions within the company (Gilbert, 2009). For example, a director at Duta Palma is a staff of

the Special Presidential Division of Social Communication, retired Major General Sardan Marbun (Arif [I41], 2011).

This practice is not confined to local firms. For example, the Singapore-listed Golden Agri Resources (GAR) is known to have several important current and former government officials (Tarigan [I23], 2010) and other prominent individuals ‘on the payroll’ (Dieleman and Sachs, 2006, Dieleman and Sachs, 2008a, Dieleman and Sachs, 2008b, Pratono, 2009, Dieleman, 2010). GAR employed Ambassador Cameron Hume (Keen, 2010), a former well-received United States ambassador to Indonesia as an advisor (Rukmantara [I45], 2011). Also, on the board of GAR’s subsidiaries include Rachmad Gobel, who enjoys direct access to the President as an advisor on the National Innovation Committee; Dr Susiyati B. Hirwan, a former Director General at the State Finance Department (SMART Agribusiness and Food, 2010); and also a former senior staff of the Ministry of Agriculture (Tarigan [I23], 2010). Also, several NGOs that were interviewed told of the rumour that Agus Purnomo, the Indonesian Special Advisor to the Ministry of Environment and Head of the Secretariat of the National Climate Change, hence making him a central figure on conservation and sustainability issues in Indonesia, is being employed on a retainer basis by GAR (Surya [I9] and Akbar [I10], 2010). Anthony Salim, who helms The Salim Group (the parent company for Singapore’s Indo Agri) also enjoys close relations with the ruling government, having also held the position as secretary general of the president’s Economic and Financial Resilience Council, before Aburizal Bakrie (Eklöf, 2002).

Other examples include the Malaysian plantation firm Sime Darby, which as a matter of principle, seeks out eminent people in host countries to be a part of its board of directors (Haji Mat Zin, 1999). The rationale for this is that these eminent people can further vouch for more strategically important people on the ground that Sime Darby can have strategic alliances with (Haji Mat Zin, 1999). For example, Sime Darby hired as an advisor the former Environment Minister Emil Salim (no relation to The Salim Group), who famously promoted the idea that ‘nature is purely something to be exploited’ during his time in office (*Jakarta Post*, 1987). Sime Darby also recently appointed the powerful Governor of the Indonesian Central Bank, Arifin Siregar as a commissioner (Tarigan [I23], 2010).

Such appointments also occur at the local level, especially with the advent of decentralization. For a host of local officials, the new decentralized laws and procedures presented opportunities to ‘cut in’ to a previously Jakarta-centered lucrative ‘industry’ of licensing rents (Lim and Stern, 2003, Tan, 2004, Palmer and Engel, 2007, White III, 2007, Hunt, 2010). Therefore, with decentralization, the role of local police chiefs, local (district and regencies) governments, administrators and politicians became increasingly important (Interviewee I49, 2011, Lawrence [I38], 2011). Hence, plantation companies began to elect as part of their staff local strongmen, their relatives (Surya [I9] and Akbar [I10], 2010, Wibisino [I44], 2011), retired three- or four-star Generals, police chiefs or relevant ministry staff. These individuals would be hired as managers, special ‘community relations officers’ (*Hubungan Masyarakat* or *HuMas*) (Peters [I1], 2010) or ‘government relations officers’ (Rowland [I39], 2011) to cultivate healthy patronage links at the local level (Peters [I1], 2010, Rukmantara [I45], 2011, Wibisino [I44], 2011).

GAR has been known to be particularly active in recruiting instrumental individuals at the local level. For example, GAR has funded political campaigns of hopefuls and keep them on staff on a retainer basis once they have been elected to the DPRD (Syaf [I27], 2010). This creates the ‘mutual hostage’ situation (Tarigan [I23], 2010, Interviewee I49, 2011, Yansen [I43], 2011) where there is a mutual indebtedness between the parties. For example, GAR has under its employment three members of the DPRD in Tanjung Jabung Barat in Jambi where GAR has substantial land holdings. Slamet Riyanto, a former senior staff at the Jambi provincial forestry and plantation office (Jakarta Post, 2006a), was employed by GAR, and later was elected a member of the DPRD. A member of the Prosperity Justice Party (*Partai Keadilan Sejahtera* or PKS), Aziz Rahman, was also a staff at a GAR subsidiary and was given leave while serving as a member of the DPRD. Megawati Sihotang, a member of the Indonesian Democratic Party (*Partai Demokrasi Indonesia* or PDI) and DPRD representative, was also a staff of a GAR subsidiary (Syaf [I27], 2010).

These patronage linkages serve many important functions to these companies. Primarily, these individuals are expected to appeal to the administration on the company’s behalf should any problems arise (Arif [I41], 2011), and help to quietly ‘settle’ any disputes, including through

informal influence with the local and central government (Interviewee M28, 2010, Arif [I41], 2011). This article argues that this behaviour is a major driver of the haze-producing fires in Indonesia's croplands. As the following section will detail, well-connected plantation companies have been able to burn to clear land with little regard for the hazardous haze that is being produced.

### **Indonesian policy on land clearing and fire**

The Basic Agrarian Law 1960, Presidential Decree No. 23/1980, Law No. 12/1992 on Agriculture, and Law No. 23/1997 on Environmental Management, sets the main environmental legislative policies for Indonesia (Rajenthran, 2002). Commercial land clearing by use of fire has been illegal in Indonesia since 1997 (Interviewee I6, 2010, Joedawinata [I33] and Sartono [I34], 2010, Keraf [I35], 2010, Tarigan [I23], 2010, Udiansyah [I15], 2010, Rowland [I39], 2011). Due to rising concerns of the haze hazard that year, a presidential decree called for the banning of all slash-and-burn style land clearing activities across the country (*Jakarta Post*, 1997), which was supported by the new Environmental Management Act (EMA) No. 23/1997 (Dauvergne, 1998, Syarif and Wibisana, 2007, Zakaria *et al.*, 2007). Most notably the EMA 1997 stated that fire ignition is a 'corporate crime' and not a 'personal crime' (Saharjo *et al.*, 2003). It incorporated the principle of strict liability (Syarif and Wibisana, 2007, Zakaria *et al.*, 2007, McCarthy and Zen, 2010) whereby the burden of proof should lie with the company responsible for the fire (Arif [I41], 2011). This applied the 'presumption of guilt' clause, that compels a plantation owner to prove that any fire on his land was not his doing and that he had taken all necessary actions to prevent or stop it (Parliament of Singapore, 1999, Arif [I41], 2011), thus shifting the burden of proof to the plantation owner. This applies to both intentional and systematic burning and outbreak of fires due to neglect (Syarif and Wibisana, 2007, Zakaria *et al.*, 2007).

Several other laws were put into place after 1997 to complement the Environmental Act No. 23. Most notably, Government Regulation No. 4/2001, Law 18/2004 Concerning Crop Estates and Ministry of Agriculture Regulation No. 26/2007 (Syarif and Wibisana, 2007, Zakaria *et al.*, 2007) concerning the Guidance on Estate Enterprise Permit provided regulation concerning the control of environmental damage or pollution resulting from forest or land fires. The regulation



states the obligation of those who have control over certain forest areas (like palm oil plantations) to prevent forest and land fires and the resulting environmental damage and pollution. They are obliged to conduct monitoring of fire outbreak and reporting based on satellite images on a half-yearly basis to the Governor's Office, district head, and the mayor. In this regard, they are obliged to provide facilities and equipment necessary for forest fire prevention and control, and to monitor and report their prevention activities to the relevant governor or mayor (Syarif and Wibisana, 2007, Zakaria *et al.*, 2007). If forest fires occur, they have an obligation to control the fires and have the responsibility to rehabilitate the resulting damage and pollution (Hedradjat [I14], 2010, Surya [I9] and Akbar [I10], 2010, Tarigan [I23], 2010). Overall, there are around nineteen presidential and ministerial decrees that deal directly with fire on forest land that supplement these basic laws (Bowen *et al.*, 2001).

If fires were found on plantation land, the law allowed the Environment Ministry to seal off burned lands by setting up a police line around them, pending an investigation (Rukmantara, 2006a). If found guilty, penalties for commercial open burning based on these regulations range from a minimum of 5 year jail terms and a fine of USD 5,000 and go up to a maximum of 15 year jail terms and fines of USD 1 million (Syarif and Wibisana, 2007). These penalties could be doubled for individuals or groups or companies that intentionally start fires (Abdullah, 2002). The Ministry of Agriculture Decree No. 357/Kpts/HK.350/5/2002 on Guidance regarding the Licensing of Plantation Businesses (Syarif and Wibisana, 2007, Zakaria *et al.*, 2007) and the Ministry of Agriculture Regulation No. 26 concerning the Guidance on Estate Enterprise Permit (Hedradjat [I14], 2010) furthermore stipulates that plantation business permits may be revoked as an administrative sanction imposed on any plantation investor who fail to conduct land clearing without fire (Syarif and Wibisana, 2007, Zakaria *et al.*, 2007, McCarthy and Zen, 2010). However, there remain inherent weaknesses in these laws that enable companies to get away with burning (Yansen [I43], 2011).

### **Weaknesses in the burning laws complicating enforcement**

Several serious weaknesses within the laws give plantation companies strategic advantage to get away with burning (Yansen [I43], 2011). For example, even though it is illegal to burn the land,

there is no legal restriction to plant on burned land (*Jakarta Post*, 2006b). Therefore, if plantations escape being caught during the burning, no retrospective action can be taken. Also, existing policies on insurance schemes have been shaped to benefit plantations; insurance schemes guarantee refunds for fire damaged plants without investigation into the sources of the fire (Jhamtani, 1998, p. 366). And as explained above, the EMA 1997 incorporated the principle of strict liability whereby the burden of proof should lie with the company responsible for the pollution. However, efforts to operationalize the principle of strict liability of land owners for fire has never been put into place (McCarthy and Zen, 2010). An interviewee provided an example of how patronage networks functioned at the parliamentary level, by explaining that provisions for the operationalization of this principle was continuously blocked in parliament by parliamentarians sympathetic to powerful plantation interests, due to influence from well-connected individuals in the sector and from the lobby group GAPKI (*Gabungan Pengusaha Kelapa Sawit Indonesia* of the Indonesian Palm Oil Association) (Interviewee I25, 2010).

Therefore, companies who were setting the fires still had to be caught red-handed (Parliament of Singapore, 1998), or evidence such as matches and oil jerrycans had to be found at the site of the crime (Interviewee I25, 2010, Surya [I9] and Akbar [I10], 2010). This was difficult to do (Parliament of Singapore, 1998, *Jakarta Post*, 2005a, Rukmantara [I45], 2011, Wibisino [I44], 2011) because current laws do not allow for police to take action against land burners on the spot or collect evidence in the field (*Jakarta Post*, 2006c, Interviewee I25, 2010). Furthermore, an interviewee professed based on personal experience that if a company maintained a good relationship with the police, it would receive adequate warning before the police came (Rolland [I50], 2011) so that evidence could be cleared. The police also would not search for evidence of burning thoroughly (Anshari [I42], 2011, Arif [I41], 2011).

Taking advantage of this loophole, concessionaires have developed further tactics to avoid being caught. As one interviewee explained, this included burning on weekends or during Friday prayers, so that when police or officials detect fires and approach the company office, ‘no one will be around for confrontation’ (Udiansyah [I15], 2010). Interviewees also tell how plantation companies often trespass and burn villager’s land beside their concessions, and let the fires spread to their land, as a way to circumvent laws (Interviewee I25, 2010). Other interviewees

explained that companies often hired subcontractors (Lim [S13], 2010, Moore [I5], 2010, Arif [I41], 2011, Rowland [I39], 2011) or locals to burn the forests. For example, NGOs interviewed reported that they have met locals who admitted to receiving money from plantations like Duta Palma and GAR to burn plantation land in the pretence that it is for their own personal purposes (Surya [I9] and Akbar [I10], 2010, Syaf [I27], 2010, Udiansyah [I15], 2010, Anshari [I42], 2011). It is more economical for companies to hire villagers to burn their land, because ‘if the villager gets caught and put in jail, it is cheaper for the company to just pay compensation to his family’ (Tarigan [I23], 2010). Sometimes, even the companies themselves will call the police to ‘catch’ these hired perpetrators (Surya [I9] and Akbar [I10], 2010), leaving behind conveniently burned land to conduct planting.

For example, three smallholders were jailed in East Kalimantan in 1997 for allegedly causing forest fires (Saharjo, 1999). And in 2000, two ‘arsonists’ from South Sumatra, believed to have been hired as scapegoats by the concessionaire (Interviewee I25, 2010, Udiansyah [I15], 2010), were sentenced to jail for 20 months of allegedly setting fire to concession lands (Saharjo et al., 2003). On top of all this, many interviews have pointed out that the decentralization of government authority in Indonesia had further rendered top-down implementation of fire policies obsolete.

### **Decentralization complicating enforcement of burning laws**

As part of the decentralization laws, Act No. 22/1999 (replacing a 1974 act on Regional Government and a 1979 act on Local Government, and later replaced by Act No. 32/2004) concerning Regional Government, environment issues were no longer under central control but became the responsibility of regency governments (Syarif and Wibisana, 2007, Widianarko, 2009, Richardson, 2010). In effect, in 2002, the position of the State Minister of Environment and the head of Environmental Impact Management Agency were dissolved, reducing the authority of the Ministry of Environment to only coordination functions of environmental matters among departments and ministries (Widianarko, 2009, Interviewee M44, 2012).

This has resulted in situations where certain regional administrations take the issue of burning less seriously than others (Hedradjat [I14], 2010, Suwarsono [I3], 2010), and sometimes provincial laws contradict central laws (Hariri [I30] and Ardiansyah [I31], 2010, Krezdorn [I32], 2010, Udiansyah [I15], 2010). For example, NGOs that were interviewed explained that there is a law in Riau that allows open burning for plantations of up to two hectares (Hariri [I30] and Ardiansyah [I31], 2010), so long as a regional-level permit has been granted (ADB-ASEAN in Severino, 2006), despite national zero-burning laws (Parliament of Singapore, 2000). Also, local authorities involved in patronage relationships with oil palm plantation companies continue to use this confusion of the laws as an excuse for why they have not brought any plantation companies to court; saying that only the Ministry of Forestry had the administrative right to revoke operating permits of errant companies holding forest concessions (*Jakarta Post*, 2000).

Uncertainty with the complex web of environmental laws as a result of decentralization has compromised law enforcement on fire issues, especially over whether the central government or local government are responsible for fire-related crimes (Wootliff, 2009). It has also obscured the rights and obligations of local and central agencies, encouraging officials to exert illegitimate discretion and favouritism in making their decisions on whether or not to uphold laws (McCarthy and Zen, 2010). As a result, these officials cease to be beholden to abstract regulations; rather their actions are guided by patronage relationships (Kurer, 1996). Indeed, in 2004, two local Riau administrators were questioned by central police for aiding and abetting the fire crimes (*Jakarta Post*, 2004b), however such cases were in the minority, and patronage networks that bolster illegal burning among large plantation companies often go undetected.

Therefore decentralization has been a welcome development of plantation companies, and many major plantation companies have been establishing relationships with local *Bupatis* (regent) (Moore [I5], 2010). As a result, open burning becomes the norm (Moore [I5], 2010) as the major plantation companies with good patronage ties have no reason to fear punishment, as burning laws are often disregarded by the administration itself (Kurer, 1996). Thus, major plantation companies were able to continue to conduct large-scale open burning for land clearing, often undetected or if caught, unsuccessfully charged (Arif [I41], 2011, Casey [I46], 2011, Yansen [I43], 2011).

For example, in 2006, the NGO *Wahana Lingkungan Hidup Indonesia* (WALHI or the Indonesian Forum for the Environment) identified 106 plantations belonging to various major plantation companies to be responsible for open burning and haze (Rukmantara, 2006b). Indeed, an interviewee witnessed herself the process of land clearing on plantation lands in Indonesia (Chiew [M15], 2010). In 2005 to 2007, hotspots were detected on five Astra Agro concessions in Riau. One peat concession of Musim Mas there was also found to have had hotspots. In Central Kalimantan during that period, 73 hotspots were detected on three of Sime Darby's concessions and 188 hotspots on three Musim Mas concessions (Greenpeace, 2007).

NGOs often face difficulty or indifference when they report these incidences to the local authorities (Stone, 2007, Chee [M27], 2010, Ramakrishna [M20], 2010, Singh [M18], 2010). NGOs also often find their attempts to investigate burnings on plantation land blocked by district police (Interviewee I6, 2010). For instance, when local NGOs wanted to enter an Aceh plantation to confirm fires on the plantation, they found their path blocked by district police (Interviewee I49, 2011). Other NGO representatives that were interviewed related an incident by a West Kalimantan Governor, who bluntly denied that two major companies had burned forests in the province to expand their estates, even though proof was shown with satellite data. They implied that his denial was due to the close relationship cultivated between the governor and those companies (Albar [I17], 2010). Furthermore, junior-level civil investigators have also noted the absence of authorization to conduct investigations on burning activities as requested by these NGOs from their superiors, who they suspect have been influenced by their clients to do so, as a hindrance to their enforcement efforts (Abdullah, 2002). The weaknesses in the burning laws as explained above, coupled with these complications that arose with decentralization, has resulted in most commercial open burning cases going uninvestigated or uncharged (Simamora, 2010, Arif [I41], 2011, Casey [I46], 2011, Yansen [I43], 2011).

### **Well-connected firms escaping investigation and conviction**

Many Indonesian, Malaysian and Singaporean firms have been able to evade official investigation by the Indonesian government despite repeated indicators of open burning. For

example, Indonesia's Duta Palma is known to be one of the companies with the worst track record in terms of illegal burning practices (Interviewee I47, 2011), but has never officially been scrutinized. Greenpeace investigations in Riau have revealed evidence of serious breaches of Indonesian law on Duta Palma plantations, especially illegal, intentional and systematic land clearing using fire. Since January 2006 to 2007, fires have been detected several times inside 12 of Duta Palma concession areas. Planting of oil palm seeds often takes place immediately after burning, proving that the fires were deliberate (Greenpeace, 2007). Similarly in West Kalimantan, the Rainforest Action Network (RAN) found evidence of burning on Duta Palma concessions in April 2009 (Gilbert, 2009, Laurance *et al.*, 2010). Incidences of burning have been reported to various authorities by NGOs and village heads, but no legal action has resulted (Greenpeace, 2007). As RAN argues, it is Duta Palma's connections within the Indonesian military that allows Duta Palma to operate with such impunity (Gilbert, 2009).

Similarly, Astra Agro also escaped allegations without any official investigation. Greenpeace found hotspots on seven Astra Agro concessions in 2006 to 2007 (Greenpeace, 2007), and Astra Agro was also found to be using fire to clear land in the protected Leuser Ecosystem area in Aceh (Richardson, 2010). However, as with previous accusations against them, Astra Agro denied charges that the fires were deliberately lit, maintaining that the primary causes of the fires were small slash-and-burn farmers and log smugglers who burn stumps to destroy evidence (WALHI *et al.*, 2009). Again, no action from the authorities was recorded.

Other similar cases were with plantations of Malaysian companies like TH Plantations (THP) and the IOI Group. An interviewee from the Global Environment Center explained that THP was known to have burned about 20,000 hectares of land in Sumatra in 1997, which was identified as being the main source of smoke travelling to Singapore that year (Interviewee M44, 2012). More recently, following a report by Greenpeace who detected 234 hotspots on five of IOI's concession between 2006 and 2007 (Greenpeace, 2007), Milieudefensie, another NGO, found that newly opened plantations in West Kalimantan belonging to Malaysia's IOI Group in 2009 had a substantial increase in fire hotspots in newly cleared land (Milieudefensie, 2010a). It was found that prior to the start of land clearing activity in preparation for planting in 2009, there were no hotspots in the concession areas, however several concentration of hotspots occurred in

newly cleared areas. As the Milieudéfense report notes ‘although the concentrated occurrence of fire hotspots in newly cleared plantation development areas alone does not represent hard evidence that IOI subsidiaries practice intentional open burning, few alternative causes could be determined’ (Milieudéfense, 2010b).

This is at odds with IOI’s self-imposed strict ‘zero burning policy on planting or replanting and on waste management’. IOI claims that their zero burning policy was designed to totally overcome smoke pollution commonly associated with land clearing via slash-and-burn and to return organic matter to the soil (Milieudéfense, 2010b). When confronted by Milieudéfense, IOI reiterated their commitment to zero burning and insisted that the fires were actually due to paddy farmers on their concessions that burn after cultivation and deer hunters that burn to get new vegetation that attract deer. However, Milieudéfense argued instead that if paddy farmers and hunters were the cause of these hotspots, then there should have been fire hotspots in earlier years as well, which is not the case for the years 2007 and 2008 (Milieudéfense, 2010a). Furthermore, according to Indonesian law, concession owners are responsible for fires on their concessions regardless of origin (Hedradjat [I14], 2010, Surya [I9] and Akbar [I10], 2010, Tarigan [I23], 2010). However, despite these arguments, no further investigations were carried out by the local government and IOI’s plantations were not held accountable for the localized haze that was caused by fires in their concession areas in 2009.

The Singaporean based GAR also similarly escaped any official scrutiny. In 2005 to 2007, hotspots have been detected on six of their concessions in Riau. In Central Kalimantan during the same period, 322 hotspots were detected in five of their concessions (Greenpeace, 2007). In Papua in 2008, the Greenpeace investigation team again found evidence of land burning to prepare land for oil palm plantations on GAR concessions (Maitar, 2008). In 2009, GAR was found to have started fires on its concessions in Central Sumatra (Richardson, 2010). However, GAR strongly denied these accusations by reaffirming that they have a zero-burning policy since 1997 for land preparation (Peters [I1], 2010). According to GAR, all their land is cleared using manual methods such as bulldozing and stacking of trees, thereby preventing air pollution, preserving the soil structure, and retaining nutrients in the soil as the biomass decomposes (Golden Agri-Resources Ltd, 2010). A former GAR plantation manager that was interviewed

insisted that ‘there have always been budget allocations for mechanical clearing on plantations’ (Peters [I1], 2010). However, interviews with senior officers at the Indonesian Ministry of Environment revealed evidence dismissing the argument. They found that such companies’ budget reports for land clearing are often ‘very low, and did not match the expenses required for mechanical clearing’ (Interviewee I7 and Interviewee I8, 2010). GAR also claimed that most hotspots and burnings on their concessions occurred before land compensation and preparation and were likely to have been caused by slash-and-burn practices of the local community (Reksoprodjo, 2010). Again, no official action was taken by the authorities. Notably, the high-profile hiring of Ambassador Hume as advisor, as mentioned above occurred soon after Greenpeace’s accusations made the news. Pundits have argued that Ambassador Hume was taken on board in hopes that he could assist in smoothing over these controversial NGO allegations due to his good connections with the Indonesian administration (Keen, 2010).

Indo Agri also had similar experiences. Indo Agri has a zero burning policy on the clearing of plantation estates. According to this policy, fully mechanized methods are deployed for the felling and stacking of trees during replanting and land clearing (Indo Food Agri Resources, 2010). However, an Indo Agri plantation was heavily criticized by NGOs for its alleged association with the 1997-1998 forest fires and illegal land clearing (Casson, 2006). In 2005 and 2006, fire hotspots were detected in four of Indo Agri’s concession in Riau (Greenpeace, 2007, Walhi, 2010). Despite repeated requests by NGOs for further official investigations, the government refused to take any action (Casson, 2006).

When authorities did conduct investigations, these investigations often disappear into thin air (Udiansyah [I15], 2010) and very rarely reached the stage where companies are penalized (Witular, 2005, p. 624). Government agencies seem to prefer the persuasive approach to law enforcement rather than resorting to legal procedures when confronting plantation offenders (Gunawan, 1997). The Ministry of Forestry in fact had announced that the government did not plan to impose any penalties for land clearing but would merely continue to ‘urge parties to stop the habit’ (*Jakarta Post*, 2005b), despite zero burning regulations. Interviewees at the Ministry of Environment explained that usually if fires are detected, the company will merely be sent a show cause letter, and the local authorities will be asked to go over to check the premises. However,



only if fires are detected multiple times will court proceedings be even considered (Interviewee I7 and Interviewee I8, 2010).

For example, in the period of 1997 to 1998, 176 forest concessions and plantation companies operating mainly in Sumatra and Kalimantan were accused of using fire in land clearing activities and were issued warnings by the government. The authorities investigated 13 companies, and five were taken to court (Saharjo et al., 2003), including one plantation owned by Malaysia's THP (Interviewee M17, 2010). However, no company or individual was penalized (Parliament of Singapore, 1997). In 1999, 22 companies were identified for causing forest fires in their concession areas. Three were investigated, three other warned, and two received light sanctions by the Ministry of Forestry. None of them were taken to court. In 2000, five companies in North Sumatra and one in West Kalimantan were investigated for similar offences, but again, this did not culminate in court cases. In Riau, four plantation companies received first warnings from the Ministry of Forestry and one company received a second warning. The plantation permits of the four plantation companies were revoked temporarily (Saharjo et al., 2003), but quickly reinstated.

In 2001, five plantation companies operating in Riau were taken to court for using fire to clear their concession areas (Saharjo et al., 2003). Two cases were dismissed due to 'difficulties in collecting evidence' (Bratasida [I36], 2010), while two others are pending indefinitely (Saharjo et al., 2003). In 2004, the Ministry of Environment handed over the names of five companies together with evidence to the national police to investigate further (*Jakarta Post*, 2004a), since the Ministry is not mandated to carry out legal investigation and enforcement (Nguitrageol, 2011). However nothing came out of the police investigation. That same year, one company was brought to court over evidence that it had issued 12 letters, each ordering the clearing of 100 hectares of land using slash-and-burn methods, at USD70 per hectare. This provided proof that the fires were organized. However, this company was also not successfully prosecuted (Santoso and Naomy, 2004). And in 2006, an interviewee related a case where she, as an academic specialising in forest fires, was asked to assist in investigations for a suspected burning case in Central Kalimantan. During investigations, they found evidence of oil in jerrycans, proof that the areas were purposefully and systematically burnt. The company representatives said that the fire

spread from the villages, but the villages were found to be one hour away, too far to have caused the fires. The case was brought to court, but was later dropped for ‘unknown reasons’, which she implied was due to the close relationship that the company had with certain administrators (Satyawati [I20], 2010).

An example of such inconclusive investigations includes plantations owned by the Singaporean company Wilmar. Wilmar also claims to have a strict zero-burning policy in place as part of their sustainability commitments (Greenpeace, 2007, Zakaria *et al.*, 2007, Compliance Advisor Ombudsman, 2009, Richardson, 2010). However, Greenpeace found in 2006 to 2007 that in Central Kalimantan, 1130 hotspots were detected on seven of Wilmar’s concessions (Greenpeace, 2007). Milieudefensie’s study on three of Wilmar’s plantations in West Kalimantan showed evidence of illegal burning with the intention to clear land. A total of 3,800 hectares of fires were detected as occurring simultaneously while land clearing was underway. These fires very likely contributed to the haze that spread out over Malaysia and Singapore in August 2006. Outbreak of these fires were reported by Wilmar to the wrong authorities or not reported at all, and it was observed that newly burnt areas were immediately planted with oil palm. Milieudefensie had alerted the provincial Environmental Monitoring Agency and an official investigation team was formed. The team found Wilmar guilty of burning land systematically with the intention to clear land for plantation development. They also found that Wilmar companies did not have adequate capacity in place to prevent and fight land fires (*Jakarta Post*, 1994, Guswanto [I28], 2010, Syaf [I27], 2010) including watch towers, water pumps, and fire fighting squads (Zakaria *et al.*, 2007) as required by law (Syarif and Wibisana, 2007, Zakaria *et al.*, 2007).

The team filed three lawsuits against Wilmar in the District Courts in November 2006. However, it was found that the investigating team only charged Wilmar for smaller fires of only around 30 hectares, and not bigger ones which were detected earlier. Like the other companies, Wilmar did not deny that these fires took place, but typically blamed these fires on neighbouring plantations and local farmers. These arguments were found to be flawed as no new oil palm plantings were affected by these supposed ‘accidental’ fires. However, as is typical with most court cases

involving well-connected oil palm plantations, these cases have never been brought to court, the official reason given being ‘limited human resources’ to do so (Zakaria et al., 2007).

Malaysia’s KLK is the only company that has ever been successfully prosecuted for open burning in Indonesia thus far (Surya [I9] and Akbar [I10], 2010, Syaf [I27], 2010). A KLK subsidiary plantation, PT Adei Plantation and Industry (PT API), was found guilty for illegal burning under the EMA 1997 in 2001 (Saharjo et al., 2003). KLK claims to be enforcing a zero burning policy in all its new planting and replanting activities to prevent smoke pollution and CO2 emissions so as to maintain the air quality of surrounding areas (Kuala Lumpur Kepong Berhad, 2010). When fires broke out within PT API during the haze season of 2000, the Riau Provincial Justice Team conducted a field investigation that indicated that PT API was responsible for the fires (Saharjo et al., 2003). Even though the company blamed smallholders, investigators found the company’s planning book, which showed that plans to open the land matched the schedule of the fires. Also, the company’s budget report for land clearing was very low, which did not match the expenses required for mechanical clearing (Interviewee I7 and Interviewee I8, 2010).

The case was handed to the public prosecutor, who prepared the indictment and took to company to court. After a long trial process, the company was found guilty in October 2001. The general manager of the company, Mr. C. Gobi, was sentenced to a two-year imprisonment and the company was fined USD 27,600. However, on 11 February 2002, the High Court reduced the sentence to 8 months and the fine to USD 11,000 on appeal by the company (Saharjo et al., 2003), on the grounds that the existence of the element of ‘intentional’ or ‘deliberate’ burning as required by the EMA could not be proven (Syarif and Wibisana, 2007). However, the prosecutors were not happy with the decision, as in their view, the ruling was too lenient. Indeed, this ruling was far below the minimum jail term and fine as stipulated under the EMA 1997. This most likely could have been due to the undue influence of the courts by prominent Indonesian lawyer Al Hakim Hanafiah who is in partnership with KLK over PT API (Saharjo et al., 2003).

### **Ineffective revisions of burning laws maintain status quo**

The latest revisions to the Indonesian environmental law attempt to address the confusions and uncertainties that limit the effective implementation of burning laws in Indonesia as discussed above. The new EMA of 2009 attempts to integrate and harmonize the responsibility of central, provincial and district governments in environmental management. It also tightens laws and penalties for commercial open burning. Under the EMA 2009, every person is prohibited from using fire for land clearing purposes, and whosoever intentionally commits an action which causes the violation of the ambient standard of air, water, sea water and breaches the standards of environmental damage shall be criminally liable to a minimum of three years up to a maximum of ten years imprisonment and to a minimum fine of USD 330,000 up to a maximum fine of USD 1.1 million. If such actions cause injury or death, these penalties can be increased to a minimum of five years up to a maximum of 15 years imprisonment, and a minimum fine of USD 5,000,000 up to a maximum of USD 1.7 million. In the case of negligence, the minimum penalty is one year to a maximum of three years imprisonment and minimum fine of USD 110,000 up to a maximum of USD 330,000. The person who gives orders or acts as the leader of the company is criminally liable for the conduct of his/her company. The amount of penalty (imprisonment and fine) will be increased by one-third of the maximum penalty of an individual if the perpetrator is a company. However, despite these revisions, the Ministry of Environment still has no power to force other government agencies to comply with any requirements or expectations, so the implementation will still mainly depend on the willingness of other government agencies (Syarif, 2010).

As a result, fires continue to be detected on the concessions of major plantation companies to the present day. In 2011, 70% of fires were located on plantations (Yansen [I43], 2011). In 2011, there has been illegal commercial land clearing by fire in Jambi, Riau and West Kalimantan, Central Kalimantan and South Sumatra (Surya [I9] and Akbar [I10], 2010, Tarigan [I23], 2010, Arif [I41], 2011, Interviewee I48, 2011), including Duta Palma plantations (Interviewee I48, 2011) and a plantation owned by the Makin Group in Jambi (Syaf [I27], 2010). However, most companies did not receive any serious negative backlash from this. Some companies only received a warning letter from the local governments, (Arif [I41], 2011), while others were slapped with a token small fine (Casey [I46], 2011, Interviewee I48, 2011), and no further action was taken (Interviewee I48, 2011).

Hence, well-connected plantation companies often act like they are above the law. For example, according to Indonesian law as detailed above, plantations are obliged to conduct monitoring of fire outbreak and reporting based on satellite images on a half-yearly basis to appropriate authorities. However, an interviewee from Greenpeace said this is not happening (Interviewee S19, 2010). Also, many concessionaires have been found to have flouted the legal requirement of keeping fire fighters and equipment ready on their plantations (Syaf [I27], 2010). Furthermore, the Ministry of Environment was particularly constrained because it is only able to *monitor* companies, not actually enforce regulations. Environment Minister Sarwono complained that throughout the haze crises, numerous plantation owners simply ignored his ministry's concerns with regards to fire control, often inferring that political connections would protect them (Dauvergne, 1998). As a result, environmental regulations on burning are flouted with impunity.

## **Conclusion**

In conclusion, the serious environmental hazard that is the almost annual transboundary haze in Southeast Asia can be seen to be bolstered by patronage networks that are prevalent in the business atmosphere of Indonesia. Well-connected local and foreign oil palm plantation companies have been able to take advantage of these linkages to ensure that they can act with impunity. Hence, these companies continue to use fire as a cost-efficient way to clear land in preparation for planting while disregarding the serious environmental implications that rise from the hazardous smoke that is produced from these fires. The national laws and regulations against the use of fire are rendered useless in the face of powerful economic interests, and the Southeast Asian society continues to suffer the effects of haze pollution year after year.

## **Notes**

<sup>1</sup> Some interviewees allowed the researcher to use their real names for this research and some preferred to remain anonymous. Therefore, the researcher devised a system to maintain uniformity in the classification of interview sources for this thesis. To indicate the country or institution where the interview was conducted, the letters 'I' for Indonesia, 'M' for Malaysia, 'S' for Singapore, and 'A' for ASEAN is used, along with a number to indicate the order of which

the interview was conducted. For example, an interviewee who allowed himself or herself to be named, who was the tenth to be interviewed in Singapore, would appear referenced as, 'Ali [S10]'. An anonymous interviewee in Malaysia would be referenced as 'Interviewee M5'.

## References

- Abdullah, A., 2002. *A review and analysis of legal and regulatory aspects of forest fires in South East Asia*. Jakarta.
- Albar [I17], I., 2010. Head, Directorate of Forest Fire Control, Ministry of Forestry. Jakarta.
- Anshari [I42], G.Z., 2011. Center for Wetlands People and Biodiversity, Universitas Tanjungpura. Pontianak.
- Applegate, G., Smith, R., Fox, J.J., Mitchell, A., Packham, D., Tapper, N. & Baines, G., 2002. Forest fires in Indonesia: Impacts and Solutions. In C.J. Colfer & I.A.P. Resosudarmo (eds.) *Which Way Forward? People, forests and policymaking in Indonesia*. Singapore: Institute of Southeast Asian Studies, 293-307.
- Arif [I41], J., 2011. Forest Campaigner, Greenpeace Southeast Asia. Jakarta.
- Asean Secretariat, 2008. Information on Fire and Haze. In E. Division (ed.) *HazeOnline*. Jakarta: ASEAN Secretariat.
- Bakrie Brothers, 2010. Annual Report. Indonesia: Bakrie Brothers.
- Bowen, R., Bompard, J.M., Anderson, I.P., Guizol, P. & Gouyon, A., 2001. Anthropogenic fires in Indonesia: A view from Sumatra. In P. Eaton & M. Radojevic (eds.) *Forest Fires and Haze in South East Asia*. New York: Nova Science Publishers, 41-62.
- Bratasida [I36], L., 2010. Assistant Minister of Global Environmental Affairs and International Cooperation, Ministry of Environment. Jakarta.
- Caroko, W., Komarudin, H., Obidzinski, K. & Gunarso, P., 2011. *Policy and institutional frameworks for the development of palm oil-based biodiesel in Indonesia*. Jakarta.
- Casey [I46], M., 2011. Writer, Associate Press. Dubai.
- Casson, A., 2002. The political economy of Indonesia's oil palm sector. In C.J. Colfer & I.A.P. Resosudarmo (eds.) *Which Way Forward? People, forests and policymaking in Indonesia*. Singapore: Institute of South East Asian Studies, 221-245
- Casson, A., 2006. Decentralisation, forests and estate crops in Kutai Barat District, East Kalimantan. In F.M. Cooke (ed.) *State, Communities and Forests in Contemporary Borneo*. Canberra: The Australian National University E Press.
- Chee [M27], T.Y., 2010. Manager, Global Environment Center. Kuala Lumpur.
- Chiew [M15], H., 2010. former Environmental Reporter, The Star. Kuala Lumpur.
- Colfer, C.J.P., 2002. Ten propositions to explain Kalimantan's fires. In C.J. Colfer & I.A.P. Resosudarmo (eds.) *Which Way Forward? People, forests and policymaking in Indonesia*. Singapore: Institute of Southeast Asian Studies, 309-321.
- Compliance Advisor Ombudsman, 2009. *Complaint from Communities in Kalimantan and Civil Society in relation to activities of the Wilmar Group of Companies*. Jakarta.
- Dauvergne, P., 1998. The political economy of Indonesia's 1997 forest fires. *Australian Journal of International Affairs*, 52, 13-17.
- Dauvergne, P.J.M., 1995. *Shadows in the forest: Japan and the politics of timber in Southeast Asia*. University of British Columbia.

- Dieleman, M., 2010. Shock-imprinting: External shocks and ethnic Chinese business groups in Indonesia. *Asia Pacific Journal of Management*, 27, 481-502.
- Dieleman, M. & Sachs, W., 2006. Oscillating between a relationship-based and a market-based model: The Salim Group. *Asia Pacific Journal of Management*, 23, 521-536.
- Dieleman, M. & Sachs, W., 2008a. Reluctant internationalization: The case of the Salim Group. In L. Suryadinata (ed.) *Ethnic Chinese in contemporary Indonesia*. Singapore: Institute for South East Asian Studies.
- Dieleman, M. & Sachs, W.M., 2008b. Economies of connectedness: Concept and application. *Journal of International Management*, 14, 270-285.
- Eaton, P. & Radojevic, R., 2001. *Forest Fires and Regional Haze in Southeast Asia* New York: Nova Science Publishers, Inc.
- Eklof, S., 2002. Politics, business, and democratization in Indonesia. In E.T. Gomez (ed.) *Political business in East Asia*. New York: Routledge.
- Enderwick, P., 2005. What's bad about crony capitalism? *Asian Business & Management*, 4, 117-132.
- Fairhurst, T. & McLaughlin, D., 2009. *Sustainable oil palm development in degraded land in Kalimantan*. Kent.
- Gilbert, D., 2009. *Duta Palma's filthy supply chain: A case study of a palm oil supplier in Indonesia*. San Francisco.
- Golden Agri-Resources Ltd, 2010. Annual Report. Singapore: Golden Agri-Resources Ltd.
- Gomez, E.T., 2009. The rise and fall of capital: Corporate Malaysia in historical perspective. *Journal of Contemporary Asia*, 39, 345-381.
- Greenpeace, 2007. *How the palm oil industry is cooking the climate*. Jakarta.
- Gunawan, T.S. 1997. Environmental campaign ruled by forest fires *Jakarta Post*, 26 December 1994.
- Guswanto [I28], 2010. Senior Administrator of Research and Development, Meteorology, Climatology and Geophysics Agency. Jakarta.
- Haji Mat Zin, R., 1999. Malaysian reverse investments: Trends and strategies. *Asia Pacific Journal of Management*, 16, 469-496.
- Hariri [I30], D. & Ardiansyah [I31], I., 2010. WWF-Indonesia. Jakarta.
- Hedradjat [I14], N., 2010. Director of Crop Protection, Ministry of Agriculture. Jakarta.
- Hunt, C., 2010. The costs of reducing deforestation in Indonesia. *Bulletin of Indonesian Economic Studies*, 46, 187-192.
- Indo Food Agri Resources, 2010. Annual Report. Singapore: Indo Food Agri Resources.
- Interviewee I6, 2010. formerly of Greenpeace-South East Asia. Jakarta.
- Interviewee I7 & Interviewee I8, 2010. Ministry of Environment Jakarta.
- Interviewee I25, 2010. Channel NewsAsia. Jakarta.
- Interviewee I47, 2011. Burung Indonesia. Jakarta.
- Interviewee I48, 2011. Fauna Flora International. Jakarta.
- Interviewee I49, 2011. Leuser Foundation. Jakarta.
- Interviewee M17, 2010. Department of Environment. Kuala Lumpur.
- Interviewee M28, 2010. TH Plantations. Kuala Lumpur.
- Interviewee M44, 2012. Global Environment Center. Kuala Lumpur.
- Interviewee S19, 2010. Straits Times Press. Singapore.
- Jakarta Post*. 1987. Indonesia's environment *Jakarta Post*, 24 September 1987.
- Jakarta Post*. 1994. Kalimantan, Sumatra forest fires turn into blaming game *Jakarta Post*, 3 October 1994.
- Jakarta Post*. 1997. When haze becomes hazier *Jakarta Post*, 11 September 1997.
- Jakarta Post*. 1998. Haze from forest fires blankets areas in Riau *Jakarta Post*, 16 February 1998.
- Jakarta Post*. 2000. Riau authorities fed up with continuing forest fires *Jakarta Post*, 20 July 2000.

- Jakarta Post*. 2004a. Government prepares lawsuits against firms over fires *Jakarta Post*, 25 June 2004.
- Jakarta Post*. 2004b. Haze endures despite rainfall *Jakarta Post*, 28 June 2004.
- Jakarta Post*. 2005a. Govt moves against firms responsible for forest fires *Jakarta Post*, 13 August 2005.
- Jakarta Post*. 2005b. Malaysia and Indonesia agree to battle fires, haze *Jakarta Post*, 12 August 2005.
- Jakarta Post*. 2006a. Pests devastate Jambi harvests *Jakarta Post*, 16 June 2006.
- Jakarta Post*. 2006b. Smothering Kalimantan waits for rains *Jakarta Post*, 2 November 2006.
- Jakarta Post*. 2006c. Stricter law urged to tackle haze *Jakarta Post*, 16 October 2006.
- Jakarta Post*. 2009. Curbing the haze *Jakarta Post*, 19 June 2009.
- Jhamtani, H., Year. Forest and land fires in Indonesia: An evaluation of factors and management efforts. <sup>^</sup>eds. *International cross sectoral forum on forest fire management in South East Asia*, Jakarta: National Development Planning Agency, Indonesia.
- Joedawinata [I33], A. & Sartono [I34], 2010. Indonesian Palm Oil Commission. Jakarta.
- Keen, M. 2010. Sinar Mas intends to regain image *Climate Action*, 14 December 2010.
- Keraf [I35], S., 2010. former Minister of the Environment and Vice Chairman of Commission 7 (Environment, Energy and Research and Development), Parliament of Indonesia. Jakarta.
- Krezdorn [I32], R., 2010. Programme Director, German Technical Cooperation. Jakarta.
- Kuala Lumpur Kepong Berhad, 2010. Annual Report. Ipoh: Kuala Lumpur Kepong Berhad.
- Kurer, O., 1996. The political foundations of economic development policies. *Journal of Development Studies*, 32, 645-668.
- Laurance, W.F., Koh, L.P., Butler, R., Sodhi, N.S., Bradshaw, C.J.A., Neidel, J.D., Consunji, H. & Vega, J.M., 2010. Improving the performance of the Roundtable on Sustainable Palm Oil for Nature Conservation. *Conservation Biology*, 24, 377-381.
- Lawrence [I38], P., 2011. Researcher, Ecostrategy. Sydney.
- Lee [S20], P.O., 2010. Fellow, Regional Economic Studies, Institute for South East Asian Studies. Singapore.
- Lim [S13], M.A., 2010. Manager, Policy Research, Singapore Institute of International Affairs. Singapore.
- Lim, L.Y.C. & Stern, A., 2003. State power and private profit: the political economy of corruption in Southeast Asia. *Asian-Pacific Economic Literature*, 16, 18-52.
- Maitar, B., 2008. *Sinar Mas: Indonesian palm oil menace*. Jakarta.
- Mccarthy, J. & Zen, Z., 2010. Regulating the oil palm boom: Assessing the effectiveness of environmental governance approaches to agro-industrial pollution in Indonesia. *Law & Policy*, 32, 153-179.
- Milieudefensie, 2010a. *Milieudefensie's Response to IOI's rebuttal in Substance*. Jakarta.
- Milieudefensie, 2010b. *Too green to be true: IOI Corporation in Ketapang District, West Kalimantan*. Amsterdam.
- Moore [I5], P.F., 2010. Project Manager, IUCN-WWF Project Firefight Southeast Asia. Jakarta.
- Nguitragool, P., 2011. Negotiating the Haze Treaty. *Asian Survey*, 51, 356-378.
- Palmer, C. & Engel, S., 2007. For better or for worse? Local impacts of the decentralization of Indonesia's forest sector. *World Development*, 35, 2131-2149.
- Parliament of Singapore, 1997. Haze (1997-10-07). Singapore.
- Parliament of Singapore, 1998. Haze pollution (motion) (1998-06-30). Singapore.
- Parliament of Singapore, 1999. Fires and haze from Indonesia (1999-05-04). Singapore.
- Parliament of Singapore, 2000. Fires in Indonesia (2000-03-13). Singapore.
- Peters [I1], E., 2010. Sinarmas Group. Kuala Lumpur.
- Pratono, H., 2009. *Indonesia oil palm plantation* [online]. Universitas Surabaya. Available from: [http://30205z.blogspot.com/2009\\_04\\_01\\_archive.html](http://30205z.blogspot.com/2009_04_01_archive.html) [Accessed Access Date 2011].
- Rajenthiran, A., Year. Indonesia: An overview of the legal framework of Foreign Direct Investment. <sup>^</sup>eds. *ISEAS Working Papers: Economics and Finance*, Singapore: Institute of Southeast Asian Studies.



- Ramakrishna [M20], S., 2010. Coordinator, Malaysian Environmental NGOs. Kuala Lumpur.
- Reksoprodjo, F., 2010. *Independent verification reveals Greenpeace claims are exaggerated or wrong*. Jakarta.
- Richardson, C.L., Year. Deforestation due to palm oil plantations in Indonesia. *eds. Towards the Sustainable Production of Palm Oil*, Australia.
- Rolland [I50], D., 2011. Former staff of Rimbunan Hijau. Biak.
- Rowland [I39], I., 2011. Tropical Forest Conservation Manager, The Royal Society for the Protection of Birds. London.
- Rukmantara [I45], A., 2011. Former environmental journalist, Jakarta Post. Jakarta.
- Rukmantara, A. 2006a. 'We must do more to educate people about open burning' *Jakarta Post*, 4 September 2006.
- Rukmantara, T.A. 2006b. New Borneo fires raise haze threat *Jakarta Post*, 14 August 2006.
- Saharjo, B.H., Year. The role of human activities in Indonesian forest fire problems. *In: H. Suhartoyo & T. Toma, ed. Impacts of fire and human activities on forest ecosystems in the tropics*, Samarinda, Indonesia: Tropical Forest Research Center, Mulawarman University.
- Saharjo, B.H., Danny, W., Moore, P.F. & Simorangkir, D., 2003. *Convicting forest and fire offences: A case study of the legal process in Riau, Indonesia*. Jakarta.
- Santoso, P. & Naomy, P.C. 2004. More firms probed over Riau fires *Jakarta Post*, 26 June 2004.
- Satyawan [I20], L.S., 2010. Lecturer, Forest Fire, Department of Silviculture, Institute Pertanian Bogor. Bogor.
- Scott, J.C., 1972. Patron-Client Politics and Political Change in Southeast Asia. *American Political Science Review*, 66, 91-113.
- Severino, R.C., 2006. *Southeast Asia in Search of an ASEAN Community: Insights from the former ASEAN Secretary-General* Singapore: ISEAS.
- Simamora, A.P. 2010. Government eyes owners of unlicensed mines, plantations *Jakarta Post*, 23 September 2010.
- Singh [M18], G., 2010. Chairman, Center for Environment, Technology and Development. Kuala Lumpur.
- Smart Agribusiness and Food, 2010. Annual Report. Jakarta: SMART Agribusiness and Food.
- Stone, R., 2007. Can palm oil plantations come clean? *Science*, 317, 1491.
- Surya [I9], M.T. & Akbar [I10], A., 2010. Deputy Directors, Wahana Lingkungan Hidup Indonesia. Jakarta.
- Suwarsono, Roswiniarti, O., Noviar, H., Albar, I., Phonekeo, C.J.S.B.V. & Song, Y., 2007. Influence of climate variation and vegetation greenness on fire occurrence: A case study in Central Kalimantan province. Jakarta: Indonesian National Institute of Aeronautics and Space and Geoinformatics Center - Asian Institute of Technology.
- Suwarsono [I3], 2010. Researcher, Remote Sensing Applications and Technology Development Center, Indonesian National Institute of Aeronautics and Space. Jakarta.
- Syaf [I27], R., 2010. Director of Conservation Information, Wahana Informasi. Jakarta.
- Syarif, L.M., 2010. The source of Indonesian Environmental Law. *IUCN Academy of Environmental Law*, 1.
- Syarif, L.M. & Wibisana, A.G., Year. Strengthening legal and policy frameworks for addressing climate change in Asia: Indonesia. *eds. Asian Environmental Compliance and Enforcement Network*, United States: United States Environment Programme.
- Tan [S7], A.K.J., 2010. Vice Dean, Faculty of Law, NUS. Singapore.
- Tan, A.K.J., 2004. Environmental laws and institutions in Southeast Asia: A review of recent developments. *Singapore Year Book of International Law*, 177-192.
- Tan, K.T., Lee, K.T., Mohamed, A.R. & Bhatia, S., 2009. Palm oil: Addressing issues and towards sustainable development. *Renewable and Sustainable Energy Reviews*, 13, 420-427.
- Tarigan [I23], A., 2010. Executive Director, Sawit Watch. Bogor.
- Udiansyah [I15], 2010. Faculty of Forestry, Lambung Mangkurat University. Jakarta.

- Walhi, 2010. *Kebakaran Hutan: Bonus Tahunan Oengelolaan Hutan Yang Salah Kaprah*. Indonesia.
- Walhi, Sawit Watch & Celcor, 2009. *Malaysian Palm Oil and Logging Investments and Operations*.
- White Iii, A.J., 2007. Decentralized environmental taxation in Indonesia: A proposed double dividend for revenue allocation and environmental regulation. *Journal of Environmental Regulation*, 19, 43-69.
- Wibisino [I44], I.T.C., 2011. Wetlands International. Jakarta.
- Widianarko, B., Year. Democratization, Decentralisation and Environmental Conservation in Indonesiaed.^eds. *Asia-pacific NGO Environmental Conference*, Kyoto.
- Witular, R.A. 2005. Govt vows to prosecute 10 firms over forest fires *Jakarta Post*, 16 August 2005.
- Wootliff, J. 2009. Blaze and haze in nation's forests must be stamped out for good *Jakarta Post*, 16 June 2009.
- World Investment Report, 2009. TNCs and Agricultural Production in Developing Countries. *World Investment Report 2009: Transnational Corporations, Agricultural Production and Development*. Geneva: UNCTAD.
- Yansen [I43], 2011. Tropical Ecologist, University of Bengkulu. Bengkulu.
- Zakaria, A., Theile, C. & Khaimur, L., 2007. *Policy, practice, pride and prejudice: Review of legal, environmental and social practises of oil palm plantation companies of the Wilmar Group in Sambas District, West Kalimantan (Indonesia)*. Netherlands.