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‘Wild Logging’: The Rise and Fall of Logging Networks and Biodiversity Conservation Projects on Sumatra’s Rainforest Frontier

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'Wild Logging': The Rise and Fall of Logging Networks and Biodiversity Conservation Projects on Sumatra's Rainforest Frontier

John F. McCarthy*

Abstract

Unregulated logging networks in South Aceh, Sumatra, 1996–1999.

During 1999–2000, the illegal and unregulated logging of Indonesia's forests became the focus of critical attention. It has been estimated that logging outside the State legal regime produces approximately half of the total timber production from Indonesia's forests. In 2000, as Indonesia's forests continued to rapidly recede, the problem had become so critical that, without serious changes, the World Bank and other foreign donors considered withdrawing entirely from forestry sector projects in Indonesia. While on a national scale the extent of the problem is now understood, insufficient attention has been paid to how this 'informal sector' operates at the district level. The paper is based on research carried out in the district of South Aceh (Aceh Selatan) during 1996–1999, before and during the crisis that marked the end of the Suharto era. Through considering the emergence of logging networks in this district, this paper examines the institutional arrangements associated with this phenomenon, explores how logging networks emerge, how they operate, and how they respond to economic and political changes as well as interventions by outside conservation agencies. Webs of political, economic and social exchanges have emerged around illegal logging, constituting institutionalized sets of relationships that operate in ways antithetical to State legal norms. Extra-legal logging generates revenue for local clientelist networks and the district budget and offers impoverished villagers viable survival strategies, but threatens the ecological future of Indonesia's once vast forests. By considering the changes that most affected logging networks over this period, the paper concludes by discussing the conditions necessary for successful project interventions.

Key Words: illegal logging, Indonesia, forestry, conservation intervention, institutions; customary law, state

Introduction

In response to the rapid loss of Indonesia's tropical rainforests, international NGOs and foreign donor agencies have embarked on ambitious projects to decrease the rate of environmental destruction and encourage more sustainable management of rainforest ecosystems. Despite the large sums of money invested so far, at best these projects have had very mixed results. One of the most significant problems has been the extensive illegal logging networks operating at the district level.

During 1999–2000, the illegal and unregulated logging of Indonesia's forests became the focus of critical attention (Keating 2000).¹ An Indonesia-UK Tropical Forest Management Programme report (ITFMP 1999) analysed the extent of this *penebangan liar* ('wild' or

'uncontrolled logging' as it is known in Indonesian), estimating that timber extraction outside of the State legal framework harvests around 30 million cubic metres of roundwood from Indonesia's forests each year. This amounts to the same quantity of wood as that produced legally by the timber industry, or approximately half of the total timber production from Indonesia's forests (ITFMP 1999: 13). By 2000, the problem had become so critical that, without serious changes, the World Bank and other foreign donors considered withdrawing entirely from forestry sector projects in Indonesia. While on a national scale the extent of the problem is now understood, insufficient attention has been paid to its

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underlying causes; how this 'informal sector' operates at the district level has not been well studied.

This paper is based on research carried out in South Aceh, Sumatra, during 1996–1999, before and during the crisis that marked the end of the Suharto era and just before the current separatist conflict.² Through investigating the emergence and operation of logging networks and the problems faced by a conservation intervention by an NGO in one district of Sumatra, the paper examines how district level networks of power and interest determine environmental outcomes. Drawing on Migdal's (1988) study of State capacity, it investigates how the web of political, economic and social exchanges that surround illegal logging have constituted institutionalized sets of relationships that have operated in ways antithetical to State legal norms. This paper finds that district level networks of power and interest have coalesced around logging, offering impoverished villagers viable survival strategies, and creating a most serious obstacle to biodiversity conservation. By considering the changes that most affected logging networks over this period, the paper discusses the conditions that might support successful project interventions.

Power and interest at the district level

Drawing on studies in several developing nations, Migdal's (1988) work on State and society helps outline the logic determining patterns of power and interest operating at the district level. On the one hand, according to Migdal, district officials attempting to implement State policy face considerable disincentives, for a thoroughgoing implementation of State policy would involve changing the rules of the game at the local level, thereby endangering entrenched local interests which receive disproportionate benefits from the existing order. For instance, a local official attempting to implement laws such as those prohibiting illegal logging in State forest would stir up vehement opposition from key local figures including entrepreneurs, local and party officials and sawmill operators. As these figures would perceive the implementation of a policy or enforcement of a law as an attack on their interests, they would find ways to retaliate against officials diligently doing their job. Therefore those responsible for policy implementation require considerable backing from State agencies, superiors and groups in civil society if they are conscientiously to implement State regulations. However, as all too often such officials have limited support, diligently implementing policy or enforcing the law can entail significant risks to an official's career.

On the other hand, there is every incentive for officials to be less than diligent about implementing State policies and laws. Often there are few outside controls on local officials and a lack of effective supervision. At the same time, those State clients who would benefit from reforming the local rules of the game are too weak politically to apply pressure on or support local officials. Consequently, local officials are able to freely enter into exchange relationships with local politicians and entrepreneurs (Migdal 1988). Moreover, officials have a lot to exchange: not only is the local bureaucracy the key actor in the allocation of State resources, but officials are in charge of implementing State regulations. This gives them a privileged position within the system of exchange: they can choose how to use their discretionary powers over licensing, permits and law enforcement. This power can be employed to secure local priorities, gain the support of clients, reciprocate the support of a factional peer or patron, and for self-enrichment.

Other parties at the district level — such as community leaders, local businessmen and entrepreneurs — wish to maintain or improve their position by extending their control over sources of revenue and the patronage that enables them to offer their clients strategies of survival. To this end, they enter into exchanges with local officials responsible for allocating State resources as well as implementing State regulations. As the third party in what Migdal calls a 'triangle of accommodation', regional politicians can use their discretion over budgetary allocations, contacts at the centre and other assets at their disposal for their own purposes. Accordingly, these politicians also enter into exchanges with the bureaucratic peers and colleagues, and local powerful figures who they depend upon to mobilize resources or groups of clients for set purposes. These patterns of exchange and accommodation work to undermine the capacity of a State to institutionalise its own rules, and in many cases the institutional framework of the State has tended to be weakly established.

While Migdal has set out to account for the weakness of the State at the local level, his explanation is also relevant to the problems NGO project interventions and integrated conservation and development programmes (ICDPs) face on the forest frontier. Clearly NGOs differ from the State in terms of the resources at their disposal, their power and chain of accountability and source of legitimacy. However, to the degree that project interventions and diligent State officials are both trying to change the rules of the game operating at the local level, they confront the same obstacle: district-level networks of power and interest.

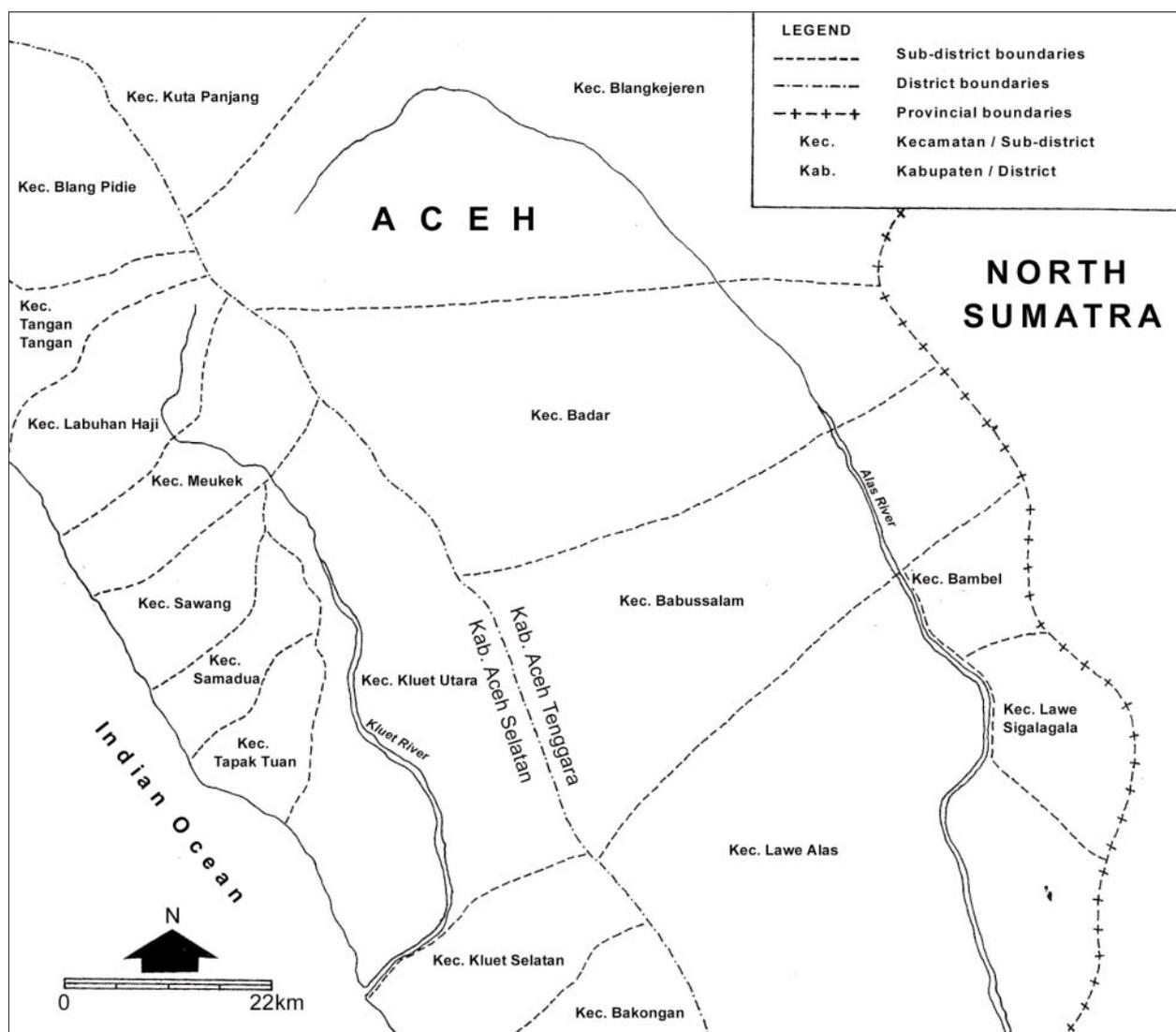
Background

Encompassing some 790 000 ha of North Sumatra and Aceh provinces (see Map 1), Indonesia’s Gunung Leuser National Park (GLNP) is one of the great national parks in Southeast Asia (Griffiths 1992: 7). GLNP itself is nested in a wider area of State-claimed forest land that forms the ‘largest contiguous expanse of undisturbed rainforest of the western Indo-Malay type in the world’ (Rijksen and Griffiths 1995: 29). To overcome the problems associated with the capacity of the GLNP complex to conserve viable populations of the biodiversity of northern Sumatra, in the early 1990s, in the process of planning for a high profile ICDP, a group of European ecologists in partnership with the Indonesian authorities selected a conservation area called the ‘Leuser Ecosystem’ which would later be subject to project activities.³ This was designed to include important areas such as lowland rainforest and other significant wildlife

habitat outside GLNP. It includes the national park, the complex of upper water catchment forests within the southern part of Aceh and North Sumatra provinces, and adjacent production and protection forests. This area is designed to contain the ranges of the major elements of the biological diversity of northern Sumatra — including the Sumatran tiger, the elephant, orang-utan and the Sumatran rhinoceros. Extending over approximately 2 million hectares, the Leuser Ecosystem is said to constitute the largest rainforest reserve in the world (Rijksen & Griffiths 1995: 30).

Kemukiman Menggamat is one of four community leagues where people of the Kluet ethnic group predominate.⁴ The Kluet are indigenous to the upper end of the Kluet river valley, a small pocket between the mountains stretching inland from the coast. The Kluet people are distinguished by their use of the Kluet language (*bahasa Kluet*). As the similarity of the Kluet

Map 1. North Sumatra and Aceh provinces



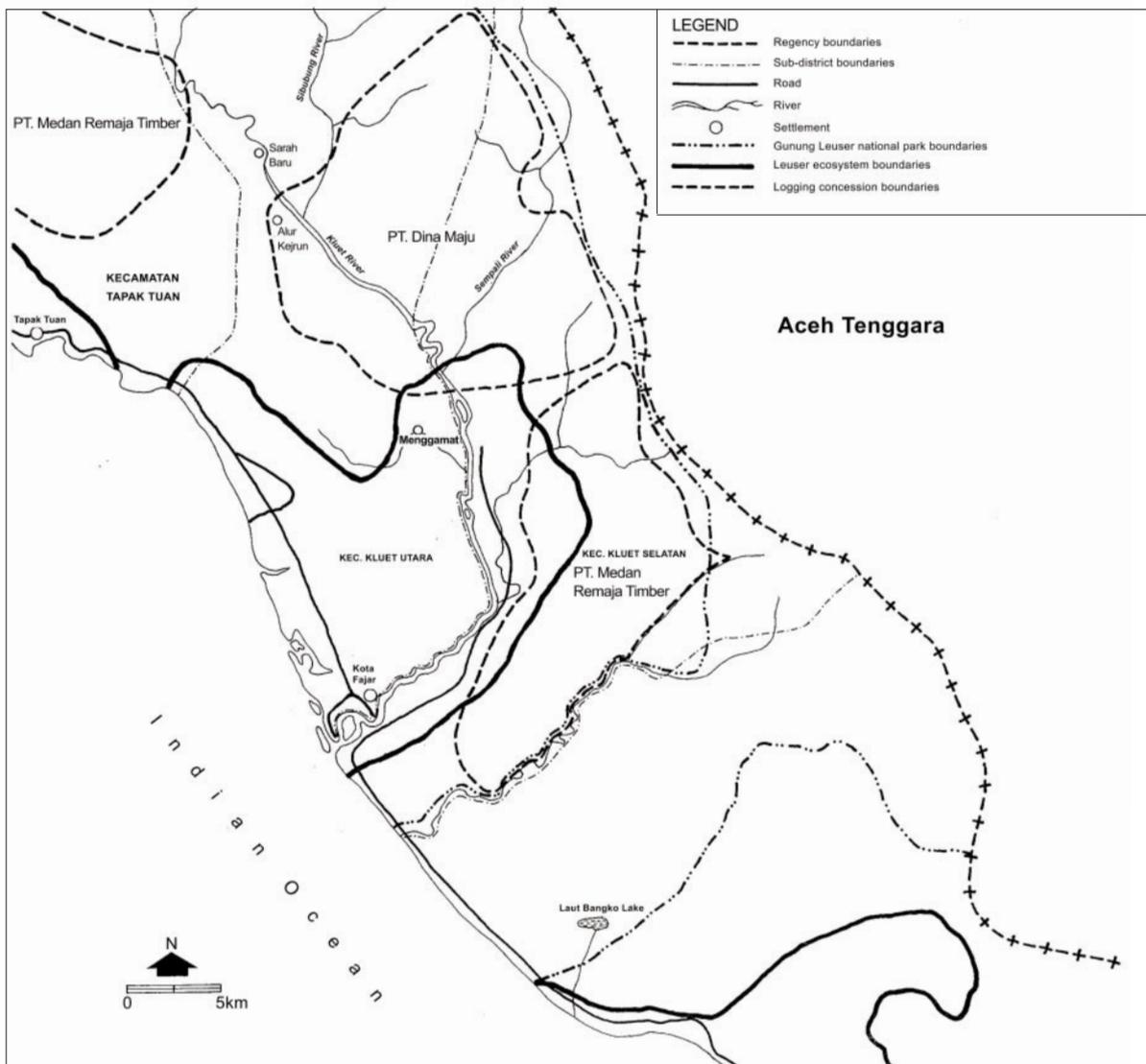
tongue to the languages of neighbouring ethnic groups indicates, the Kluet were originally related to upland Batak peoples. However, as the Kluet valley is close to the coast, there have also been waves of migration from Aceh and West Sumatra, and the Kluet customary arrangements are heavily influenced by those of the Acehnese.

Along the irrigated areas surrounding the Kluet and Menggamat rivers, the villagers of Menggamat have traditionally cultivated wet rice (*sawah*). To supplement rice, farmers have also opened dry-land gardens where they cultivated vegetables and fruit for consumption, and *nilam* (patchouli) for their cash needs⁵. As agricultural products and non-timber forest products are subject to large price fluctuations, the local economy has experienced periodic crises. Consequently, local villagers have to be opportunistic about their livelihood strategies. As the market value of the various agricultural products

fluctuates, farmers shift between different crops and agricultural strategies, and the villagers also supplement agriculture with other activities such the collection of forest products and (most recently) logging.

Beyond the heavily cultivated narrow river valley, the terrain of Kemukiman Menggamat consists of foothills of the mountain range that rises steeply behind the coast. While the Government's 1982 forest use agreement (TGHK) left the core area around the Menggamat settlements unclassified (*hutan negara bebas*), the steep upper reaches of the Kluet area are classified as 'limited production forest' (*hutan produksi terbatas*) and here, in the 1970s, a timber concessionaire (PT Dina Maju) had obtained a concession.⁶ Beyond this area, some five kilometres further to the east, a corridor of land was classified as 'protection forest' (*hutan lindung*). East of this corridor lies the pristine forest of the Gunung Leuser National Park (see Map 2).

Map 2. Gunung Leuser National Park



The Menggamat community is organised around kinship and village ties and has developed customary arrangements known as *adat* regarding rights of access and use to local resources. The Menggamat community has long considered a large area of steep country covered by rainforest as Menggamat community territory, despite its formal status as State forest. As discussed in more detail below, Menggamat leaders maintain that historically this area is under the authority of *adat* leaders. Indeed, *adat* assumptions and rules relating to access and use of resources are long established. However, rather than constituting rules set in concrete, they are dynamic, responsive to change and subject to revision.

The *adat* regime is based on an understanding that farming occurs beneath rainforest-covered hills that are subject to erosion, flooding and landslides. This means that to some degree there is a consciousness of the limiting conditions under which agriculture takes place — that the depletion of watershed forests would affect the maintenance of water supply, lead to greater susceptibility to erosion and flooding and lead to changes in the productivity of agricultural land. The villages have developed some rules to maintain ecological conditions conducive to farming by preventing irresponsible farming and environmental damage, such as cutting trees in an inappropriate place or at the wrong time of the year. Mostly, in a remote closely-knit community, the *adat* regime works on the principle of shame: villagers are unprepared to break village values because they face loss of reputation and standing in the community. In the case of ongoing violation of *adat* rules, offenders ultimately face sanctions enforced by a meeting of the *adat* council. However, as we will see, this system came under considerable stress during the last decade.

‘Wild logging’: The emergence of logging networks

Logging networks and district level networks of power and interest

The origins of logging in Menggamat can be found in the interest of certain parties in the large rents to be extracted from the timber-rich tropical rainforest. During the 1990s, under Indonesian law, timber interests could legally extract timber from native forests through two principal channels, each connected to a different level of authority. First, logging companies could obtain 20 year logging concessions or HPH (*Hak Pengusaha Hutan*) to selectively log production forests. The central government allocated long-term logging leases over the production forest areas of South Aceh during the 1970s and 1980s, many of which remained

in operation during the 1990s. Second, those wishing to open timber plantations or agricultural plantations could obtain leases over State forest land. If the land to be cleared still contained productive stands of timber, they could then obtain timber harvest permits (*Ijin Pemanfaatan Kehutanan* or IPK) from agencies of the provincial and district governments, to remove and process valuable logs.

According to a local informant who attempted to open this kind of operation, an entrepreneur (known as a *cukong*) with capital and aspiring to begin logging needed to obtain three types of permits. As well as the IPK permit itself, the *cukong* needed to obtain a permit for transporting unprocessed logs (*Surat Angkutan Kayu Bulat* or SAKB) or a permit for transporting sawn timber (*Surat Angkutan Kayu Olahan* or SAKO). While the IPK and the transport permit were obtained primarily from district and provincial forestry offices, the *cukong* also needed to obtain a permit for a sawmill, a process that involved the department of industry and trade and bypassed the forestry agency. Each of these three permits entailed numerous steps, each facilitated by payments to various government agencies.

In a study of regional government finances, Devas *et al.* (1989) observed that— while regulation of certain activities is essential — at the district level excessive regulation, such as the requirement for numerous permits, has created obstacles for economic development and scope for corruption, ‘thereby ensuring that the intended purpose of regulation is not achieved’ (Devas *et al.* 1989: 71). Accordingly, the long, convoluted process for obtaining these permits leads to widespread abuses. The informant estimated that an entrepreneur (*cukong*) would need to spend more than 40 million rupiah (Rp) and could not expect to complete the business of obtaining a legal IPK within one year. ‘So nobody is going to do it this way’, he said, ‘I tried myself and gave up.’ He concluded that it was better to find a short cut: paying local *oknum* to turn a blind eye.

It is better to steal than to process a permit, making constant payments to officials. Fifty thousand rupiah is the smallest payment to the district police (*Kapol* and *Kapolres*)... Everyone at the local level obtains payments... The police or army set up posts and every truck must pay, or people are held until payments are made. Payments are then made up and down the chain of command. All levels take the opportunity offered by the wood trade: district and subdistrict officials get a *setoran* — a monthly payment.⁷

While most operations did not obtain all the legal permits, *cukong* preferred to operate sawmill operations with a

semblance of legality. The virtue of this system was that, if they so wished, they could contract out the illegal logging to agents (known as *tauke*) who would then carry out the illegal logging operation at arm's length from their patron. The nature of the sawmill licences granted by the local department of industry office to sawmills facilitated this. According to the regional industry office, a sawmill permit would be issued after the raw materials were available. It should be based on the IPK issued by forestry that was only valid for a single year. However, the local industry office issued sawmill licences for the life of the sawmill — based on an IPK for just one year.⁸ This meant that the sawmill could continue to operate when the IPK had expired, generating a demand for illegally obtained logs. Moreover, *cukong* could obtain a licence from a sawmill whose logging area was exhausted, or move a sawmill with a valid permit into a new location. Many sawmills operated hundreds of kilometres from their registered 'stock area'. When the police checked the 'stock area', rather than finding tropical rainforest, they found themselves visiting developed parcels of land complete with washing and bathing facilities (Serambi Indonesia 1995b). In 1994 the local *Dinas Perindustrian* office⁹ estimated that of 85 sawmills operating in South Aceh, 37 were operating illegally; other observers put the number at 50 (Serambi Indonesia 1994, 1995b,c). Once the wood was processed, to carry it to the market in Medan (as noted above) a permit (SAKO) was also required. Until recently, legal sawmills could issue their own SAKO, and other sawmills bought SAKO from legal sawmills or directly from forestry officials operating beyond their responsibilities (Serambi Indonesia 1994).¹⁰

To operate in this system, *cukong* needed to seek the patronage of 'certain local officials' (*oknum*). In return for extra-legal favours, these *oknum* would offer protection to the *cukong*'s operations. Alternatively, local State functionaries or other actors could act as a *cukong* themselves, helping a *tauke* (head of a logging team) obtain money and chainsaws to organise logging teams. The *tauke* would then carry out logging operations subject to sporadic raids by law enforcement agencies at arm's length from his patron. In some cases a person with access to sufficient capital might act as both *tauke* and *cukong*.

As many articles in the Acehnese newspapers during the 1990s demonstrated, this led to logging networks spreading across South Aceh and beyond. For example, in August 1995, the head of the ruling Golkar faction in the provincial parliament, retired Major General H.T. Djohan, told the paper *Serambi Indonesia* that many officials were involved in illegal logging in many areas of Aceh, including South Aceh, either as support (*membeking*) or directly heading the logging teams (as *tauke*).

Every week there are community figures that report the involvement of government figures in wood theft... Many officials (*aparats*) have chainsaws. Observe the scores of illegal timber trucks on the roads each day. See also the scores of illegal fee collection posts (*pos pungutan*) along the whole length of the highway... The wood business also involves many government agencies and provincial government. Regional forestry offices, the army and even TKPH [special anti-logging teams] are involved. Observing the potential and power of the agencies involved, he said, it is hard to believe that — if the wood and forest problem is not handled with justice — this won't offend the community who see this taking place before their eyes (Serambi Indonesia 1995a).

In South Aceh, the *cukong* operated logging operations with the protection of patrons occupying strategic positions within the local administration. An official from *Dinas Kehutanan* interviewed in early 1999 described the result:

I have been involved in forest surveillance since 1986, and I have not yet seen a *cukong* caught... It is like a vicious circle (*lingkaran setan*) [literally a 'devil's circle']... The Police (*POLRI*) have people in the field, but when we [the Forestry Office] surrender someone to them, they are just let go. Or when we take someone to *POLRI*, they have a personal contact there. Or the forestry person has a contact, or is involved. So there is a network, and between friends someone who breaks the law cannot be brought to court. We tend to let our friends go.¹¹

This describes a pattern of exchange and accommodation between certain local officials and logging operations. However, while the logging network was connected to the need for office-based patrons to engage in exchanges with clients, peers and patrons, the illegal logging also served to secure local government priorities.

Logging and district finances

While revenue generated directly by the district — known as *Pendapatan Asli Daerah* or PAD — constitutes a small component of the total district government budget (*Anggaran Pembangunan dan Belanja Daerah* or APBD), it has played a significant role in the considerations of local government.¹² The reason for this is that a regional government unable to raise its own funds would have to primarily depend on funding allocated by the central government. Most of these funds are already earmarked for paying the incomes of local officials, or

allotted to specific budget lines and development priorities. Without significant local revenue the local government will not be able to service the debts of the district. Moreover, the regional government will not be able to support high-profile projects and distribute patronage. As a consequence, as newspaper reports suggest, local district assemblies (DPRD) have evaluated the performance of the local administration in terms of its ability to raise revenue and initiate projects: for the chief official in the district (*Bupati*) and his administration, the ability to generate funds has been one measure of the effectiveness of his period in office.¹³ Moreover, as an office holder, a *Bupati* needs to attract supporters. Even to obtain the office of *Bupati*, a local figure needs to be successfully nominated by the district assembly. Just as a large entourage would help a figure to secure office, it also assists a serving *Bupati* to obtain this office for a second time. As a consequence, besides requiring funds to service the debts of the district, a *Bupati* needs to find revenue to distribute favours and satisfy clients. Therefore, as Devas *et al.* (1989) observed, regional governments have been very concerned to increase district incomes (PAD). Setting ambitious targets for each year, each district typically has levied a large number of local taxes, the vast majority exacted under regulations set by the district administration itself (Devas *et al.* 1989).

In South Aceh each *Bupati* has faced the problem that, unlike many areas of Aceh producing oil and natural gas (*migas*), this district has few industries on which to levy taxes for the local treasury. While South Aceh has had a timber industry, most of the taxes levied on logging concessions accrued to outside interests, and only a small proportion returned to the provincial government.¹⁴ Under the *Bupati* (district head) during 1993–98, the strategy of levying district taxes (known as *retribusi*) expanded to include taxes on logging operations often operating with only a fig leaf of legality. As a WWF-LP document politely put it, the *Bupati* ‘was more interested in increasing regional government income than efforts to protect the environment’ (Kelompok Kerja WWF ID 0106 n.d.: 3). Over this period, those operating sawmills enjoyed close connections with local government. According to informants, the *Bupati* gave permission for officials to gain revenue from their operations. As one source put it, ‘in the name of the region, Pak [*Bupati*] made his own regulations to use the forests for funds to develop the region.’¹⁵ According to a journalist interviewed in the course of this study, in South Aceh, during 1993–98, the district gained an estimated 60% of district income (PAD) from formal and informal fees levied on the timber industry, mostly illegal logging.¹⁶ Local government fees levied on timber included:

- the industry and natural resource tax (*retribusi hasil bumi dan industri*), a charge imposed on timber at the point of export;

- the third party tax (*sumbangan pihak ketiga*), levied on products exported from the district. On the provincial border with North Sumatra, trucks would pay 500 000 Rp to leave the district; and
- wood collection location charge (*retribusi tempat penumpukan kayu*), levied on all companies engaged in logging operations (Analisa 1996).

To some degree this revenue-raising strategy could claim legitimacy. As noted earlier, outside interests and the central government gained the lion’s share of economic rents derived from long-term logging concessions. Meanwhile, local communities had to bear the negative externalities of the logging. Moreover, as subsequent events in Aceh have demonstrated, local people have bitterly resented the way central government extracted so much revenue from resource-rich Aceh while most of the people remained poor and the provinces underdeveloped.¹⁷ From this perspective local people logging outside the formal regime could justify harvesting local resources for their own benefit and for local government revenue.

Several informants observed that a significant amount of the funds collected this way remained with the tax collectors and their superiors. This was confirmed by a 1996 report in *Analisa*, an Aceh-based broadsheet. The report carried a statement from a member of the regional assembly complaining about the operations of the local government office responsible (*Dispenda*) for collecting the PAD taxes in South Aceh. It was estimated that, if the region produced 4 million cubic metres of wood each year, and the industry and natural resource tax (RHBI) was 1000 Rp per cubic metre, if there was no ‘leakage’, RHBI receipts from timber alone would amount to Rp 4 billion. This figure did not include other charges placed on timber. However, in 1996 the regional government had set a target for PAD of only Rp 1.7 billion. As one informant estimated, less than one-sixth of the money collected entered the official accounts.¹⁸ One of the problems, the *Analisa* (1996) article had noted, was that before collected funds entered regional government accounts, *Dispenda* placed the money into the personal account of a certain local figure.

The operation of these clientelist networks extended down into the villages themselves. In Menggamat, the *cukong* came to arrangements with key local government officials in the subdistrict administration (*kecamatan*), the police section (*Kapolsek*) and the local military command (*Danramil*), thereby gaining access to the Menggamat forests (Nababan 1996: 3–4). By 1995, there were five sawmills operating along the road to Menggamat. While these sawmills depended on wood extracted from Menggamat, not one of them had a valid

IPK permit for the area. One of the sawmills even operated with a permit that established it as a business of the regional government (*Badan Usaha Milik Daerah*) (WWF-LP 1995a).

Adat, leadership and logging

The customary (*adat*) authority structure in Menggamat reflected the structure found historically in the northern heartland of Aceh. In the tradition of government in the Acehnese village, 'intelligent elders of experience and wisdom (*cerdik-pandai*)' guided decision-making by the village head. These advisers formed an *adat* supervisory council known as the *petuhapet* for the management of village affairs (Mattugengkeng 1987).¹⁹ Another *adat* official, the *kejuren blang*, was responsible for regulating the supply of irrigation water and protecting the forest along the river course.

In Aceh a league of villages known as *mukim* (in Menggamat known as a *kemukiman*) has historically constituted the second tier of local government. The *mukim* consisted of the villages and hamlets that shared a mosque and over time had come to consider themselves as a single community under the leadership of a figure known as the *imam mukim*. *Kemukiman* Menggamat consisted of a league of villages with a unitary *adat* regime: under the leadership of the *uleebalang*, *adat* regulations and decisions were carried out and maintained for the whole of the Menggamat *adat* community (Nababan 1996).

As historical sources reveal, *adat* authorities controlled access to and use of the forests by outsiders. A trader buying forest products from the area or a collector gathering products directly would need to ask permission from the *adat* head of the community in whose territory the forest was found. The collector or trader would then be subject to a 'tax' paid to this *adat* head.²⁰ When the Village Government Law (UUPD 1979) had been implemented, the *imam mukim* had lost most of his autonomous authority. The new law had not recognised the village leagues (*mukim*), and villages were rearranged into subdistricts (*kecamatan*), with the village head (*kepala desa*) directly responsible to the *camat* (subdistrict head) rather than the *imam mukim*. This meant that, despite the key role the *imam mukim* played both in the traditional structure of community government and the implementation of *adat*, the *imam mukim* no longer had a formal position in government (Mattugengkeng 1987).

In Menggamat, the position of the *imam mukim* was particularly weak. The *imam mukim* was a newcomer of *Anuk Jamee* (Minangkabau) descent who had married

into the area, and was elevated to this position following the intervention of the district and subdistrict heads.

This intervention certainly influences the side ... the *imam mukim* takes in carrying out his duties. As a logical consequence he will be inclined to secure the priorities of the *camat* and other superior officials rather than the protest of the community towards the uncontrolled logging which almost every wet season causes floods and water shortages for irrigation in the dry season. Another reason that causes this is the dependence of the *imam mukim* on the *camat* because the *camat* had the power to directly contact the *Kepala Desa* without proceeding through the *imam mukim* with the result that his formal position is very weak (Nababan 1996: 5).

According to Nababan, this meant that the *imam mukim* 'operated as an agent for subdistrict officials'.

The *imam mukim*, as well as operating 4 chainsaws, also has a role as the surrogate of officials in the subdistrict. Several community leaders say that for his role the *imam mukim* receives a 'share' from the *camat* for securing the interests of civil and military officials who are his superiors (Nababan 1996: 3–4).

After negotiating with *adat* authorities at this level, *tauke* also needed to approach the village heads that were responsible for enforcing *adat* rules in the village territory. However, because the *tauke* had the support of local army officers (*Koramil*), civil officials (*camat*) and police (*Kapolsek*), the village heads felt unable to enforce *adat* rules that previously regulated where and when the cutting of trees could occur. Initially the village heads just let the logging happen. As a WWF-LP worker later explained, 'the village head[s] (*keucik*) were afraid of coming into conflict (*dicegeh*) with the *camat* and wouldn't really act.'²¹ Moreover, the functioning of another *adat* official, the *kejuren blang*, was also compromised. Previously, the *kejuren blang* had been responsible for protecting forest in the headwaters and regulating the flow of irrigation water. However, due to the political power of *oknum* involved in logging, the *kejuren blang* could not control the felling of trees in the watershed.

Over time village heads, in collaboration with other village decision-makers, attempted to reassert some control over access to the local forest territory as well as to gain some material benefits for the village from the mining of what was still considered community property. In several cases, particular village heads and their village councils came to an agreement to impose fees on those logging community territory. They charged loggers a 'development fee' (*uang pembangunan*) for access to the

forest under their authority. As the name suggests, the revenue raised in this way would then be used for developing village facilities such as mosques and schools. As one village head later recalled, ‘at first there was no ‘development fee’ because we were still stupid (*bodoh*). We could still be provoked by outsiders who said that the State owned the forest, not the village... We didn’t know the regulations at the time, and still could be tricked... and the apparatus had given permission’.²² By April 1995, according to a WWF report from this time, village heads were imposing fees on loggers, requiring that they report first before carrying out logging: ‘A chainsaw can operate in the forest surrounding a village by paying a registration fee (*uang pendaftaran*) of 5000 Rp per chainsaw and development fee (*uang pembangunan*) of 25 000 or 50 000 per chainsaw, depending on the village’ (WWF-LP 1995a).

However, informants in Menggamat distinguished the fee charged by *adat* heads in the colonial period from the ‘development fee’.²³ In colonial times this had been a fee paid directly to the *adat* head concerned, apparently as a component of personal income. However, the ‘development fee’ was now a fee paid to the village for developing village facilities such as the mosque or school. As a Menggamat villager interviewed in 1998 said, rather than just ‘contributing to the village head’s own pocket’, people from outside the village needed to pay the village a ‘fee’ (*retribusi*) to gain access to the forest. The price was not fixed: someone wishing to log in the forest would need to discuss (*musyawarah*) the issue first with the village head and establish a price — the price would depend on who wanted to log and for how long.²⁴

The position of a village head involved a conflict of interest. This was at least partly related to the nature of village finances. In Java each village has allocated the village head a certain piece of community-owned land to cultivate, and this land then provides him with an income in return for the work he performs on behalf of the community. However, in Aceh Selatan there are no village-owned rice fields. Village heads receive only a small honorarium from the government, and at least one village head complained that this was in no way commensurate with the work involved in carrying out their duties. Therefore, to support themselves, it has been a common practice for village heads to levy fees for certain services and permits (Devas *et al.* 1989: 37).²⁵ These include administrative charges for letters of recommendation that are required for different purposes. Usually the scale of these fees has not been set down in any formal way, but has depended either on the generosity of the person seeking the patronage of the village head, or on negotiation between the

parties. As well as acting on behalf of the community to maintain some control over village territory and levy a ‘development fee’ on behalf of the community, by charging fees on their own behalf, village heads themselves directly benefited from logging.

As ‘certain members’ (*oknum*) within the military, the police and regional government were involved, even this community control of the logging was weak. With more than 200 chainsaws operating around Menggamat by 1995, the community could not maintain its *adat* regulations before the tide of loggers.²⁶ The boss of a logging team (*tauke*) may at first have reported to the village head, but he would then invite his friends who would proceed to the forest without requesting permission. This meant that many logging teams were operating without reporting to the village head. In one case, in the village of Simpang Tiga, there was an army official who carried six or seven chainsaws, then logged in areas protected by *adat* (watersheds and hills). Members of the community could not forbid this. This logger entered without permission and without paying ‘development fee’ to the village head (WWF-LP 1995a).

In this situation, if village leaders were not to reap the rewards of logging for themselves, like other villagers who did not join in the logging of community forests, they would end up sitting by while outside parties enriched themselves. As Peluso found in a similar case from West Kalimantan, in this context, village leaders — along with villagers involved in logging — were practical about the implications of not participating: ‘a total loss of benefits as opposed to the enjoyment of benefits in the short term’ (Peluso 1992a: 217). Therefore village heads adopted opportunistic strategies, allowing logging, and obtaining benefits from their position.

Gradually, village heads also began to extract rents from the forests for themselves. In 1995, WWF-LP reported that the *tauke* were cooperating with the village heads. Soon, in addition to levying the ‘development fee’ for the village, many operated as *tauke* themselves, buying chainsaws and providing capital to those carrying out the logging. One village head even operated 16 chainsaws on behalf of another *tauke*. As a WWF-LP project worker remembered, ‘of the village heads there, only two were not involved, and I am only certain that one of them was not involved.’ The village heads built houses, bought a satellite television and new motor bikes from the profits of logging.²⁷ As village heads followed the logic of the situation, many village heads were absorbed into the webs of power and interest that involved *oknum*, *tauke* and *cukong*.

Logging operations at the village level

Outsiders had first begun introducing chainsaws into Menggamat in 1992, and the first uncontrolled logging began at that time. Before 1995, a villager explained, villagers primarily worked their own gardens.²⁸ It was only in 1995, when the price of the major cash crop at that time, *nilam*, fell sharply, that things changed on a large scale. As one informant described:

When one *bambu* (approximately 1 litre) of unhusked rice has the same value as one *bambu* of nutmeg, then we can say that nutmeg farmers will prosper. When 1 kg of *nilam* is equivalent to 1 *mayam* (3.33 g) of gold, then *nilam* farmers will prosper.²⁹

In 1995 *nilam* fell to 25 000 Rp/kg, at a time when gold was 80 000 Rp/*mayam*. Consequently people moved to other occupations, primarily the lucrative business of working in logging teams.

When logging on a wide scale began in 1995, this was largely because *tauke* offered villagers a strategy of survival at a critical moment. The *tauke* employed local people to carry out the logging, organising teams of six to fifteen loggers, including a sawyer skilled in operating a chainsaw, usually from outside the area, and teams of bearers, often labourers from surrounding villages. By joining a logging team, villagers became the clients of the *tauke* who provided resources for logging operations.

Before the logging team goes to the forest, they take money from the *tauke* to pay for their expenses in the forest and for their family needs. This money forms a debt that must be paid according to the amount of wood produced... the income of the sawyer, bearers and others depend[s] on the quantity of wood produced (WWF-LP 1995a).

These logging teams gradually moved into the forest, beginning close to villages and gradually penetrating further from the village settlements. The loggers concentrated their efforts in the forest upstream from the Menggamat village complex, the area classified as limited production forest on forestry maps. As Menggamat villagers interviewed in 1998 reported, 'the village forest (*hutan desa*) is left, because people have their *kebun* here... They can log State forest (*hutan negara*)'.³⁰ In other words, villagers did not allow loggers to take wood from areas adjacent to their gardens (*kebun*), where tree felling on steep land would damage crops or create landslides. Moreover, as a former WWF project worker reported:

There was not much logging in the village forest because they sought *meranti* and *semantuk* — the most valuable trees, and there weren't any in the

steep [secondary forest] areas behind peoples' *kebun*... Or very few with commercial price compared with further up. So the *hutan adat* doesn't look damaged compared with the area further up which had excellent wood and was heavily logged.³¹

This meant that visitors to Menggamat could see intact secondary forest (known as *hutan adat*) in the village lands close by. In contrast, loggers had mainly felled trees in the area further out that the forestry department had classified as limited protection forest.

At this time logs were often as long as 6 metres. After the trees were felled, sawyers wielding chainsaws cut them into planks on location. Then, the bearers carried the timber down to the river, where they constructed rafts which were then floated down the river. Otherwise, bearers would cut a path with a machete (*parang*), dragging 15 planks at a time down the steep slopes, one person on each end. According to informants, felling trees and sliding them down the steep slopes was a dangerous operation. 'People often die,' one said, 'they can be cut with a chainsaw, or hit by a falling tree.'³² For this reason villagers preferred to use buffaloes to carry wood down steep slopes. The buffaloes are harnessed to the planks, and on slippery slopes the buffaloes could pull up to slow the logs. In 1998, bearers were paid 3000 Rp per plank, and for carrying wood they could earn at least 20 000 Rp per day. 'But as you are paid per ton,' a logger said, 'if you are diligent (*rajin*) you can earn 30 000 per day'.³³ The lucrative nature of this enterprise tended to turn upside down the value of working activities in Menggamat, further stimulating the logging trade. For instance, according to the *camat* (subdistrict head) of Kluet Utara, the money that a teenage logger could earn in a single day far exceeded a *camat*'s daily income.³⁴

Once the wood reached the village, the bearers would load it into a truck and take it down to the mill at Kota Fajar. On the road to Kota Fajar, the truck would pass two police posts (*pos pungutan*), and the *tauke* would pay the police 20 000 Rp at each post. In addition the *tauke* would pay the *jagawana* (forest police) 60 000 Rp per truckload. At the mill the *tauke* paid lumberjacks to unload the wood. The wood was then sold to the sawmill. In 1998, the price for local wood was 250 000 Rp/tonne, while export quality earned 400 000 Rp/t. Export quality wood was shipped to Medan. As each truck could hold four tonnes, the profits earned by the *tauke* were large: between 200 000 and 400 000 per truck.³⁵

Consequently, as a Menggamat resident noted, a large web of people benefited from logging operations. First, logging operations directly employed villagers and migrant workers from surrounding areas. These included

the chainsaw operator, the logging team, timber carriers, those floating the wood down the river, the workers loading and unloading trucks down to the sawmill, truck drivers to Medan, sawmill operators and administrative staff. In addition, these operations indirectly employed a wide range of others, from the boat operators taking logging teams up-river, to *warung* (kiosk) attendants, mechanics and motorcycle vendors. Counting the extensive number of people involved, one informant estimated that one chainsaw led to the employment of up to two hundred people.³⁶ In addition, beyond Menggamat itself, there were the *cukong* and *tauke*, and a wide network of district officials raising taxes and *oknum* receiving payments from these operations.

Clearly, as Nababan (1996) has argued, the uncontrolled logging was connected with a shift in local power relations. The rearrangement of village government in accordance with the village government law, together with the capital of outside entrepreneurs, weakened the ability of the *adat* community facing outside intervention. The *imam mukim* became an instrument of outside interests on whose patronage he depended. The village heads were no longer under the tutelage of the *Petuhapet* village council but directly responsible to the *camat* who now informally benefited from the logging. *Adat* sanctions could not be brought to bear on loggers violating *adat* principles or local leaders who used their office corruptly. To some degree the community had lost its ability to control logging that damaged forests and endangered surrounding farming lands.³⁷ Nababan concluded that:

Observing the complexity of the problems connected with the uncontrolled logging shows that the destruction of forest resources is a consequence of the weak bargaining position of the community towards various outside interventions into the area, both as a result of formal government policy implementation as well as the injection of capital (Nababan 1996: 5).

Nonetheless, *adat* leaders did not sit back idly and watch. On behalf of the community, they reasserted community property rights by imposing a tax on timber extracted from what was considered to be the *adat* territory of the community. To the extent that the outside *cukong* and *tauke* recruited local villagers to work in logging teams and paid ‘taxes’ to local leaders, the local community also benefited from the mining of what was considered local property. Therefore, to a certain degree, the *oknum* and the timber entrepreneurs recognised local property rights over forest territory: they allowed local community to gain a share of the stream of benefits derived from logging. Yet this change meant that local *adat* authorities now allowed rapid exploitation,

sacrificing the long-term values of the forest for short-term gain. At a time when *nilam* prices had fallen so drastically, extracting timber from the forests offered villagers a precious economic opportunity.

Applying Migdal’s framework to Menggamat, we see the emergence of a system of exchange that begins with the *cukong*, *tauke*, and *oknum* — initially including forestry staff, army personnel and other local functionaries, and then growing to embrace *adat* leaders and village heads. In other words, timber extraction on the forest frontier generated a set of accommodations between local functionaries, entrepreneurs and community leaders and local politicians. To stay in the logging game *cukong* and *tauke* needed to conform to a system of exchange that involved extra-legal gifts and favours with local politicians and State functionaries. Officials occupying positions in the district and subdistrict government engaged in what Scott (1977) has called ‘office-based patronship’. These *oknum* used their discretionary power over licensing, permits and law enforcement as a basis for taking over the gatekeeping role over forest exploitation which, at a local level, had been held by *adat* heads³⁸ (Scott 1977). In this context, officials might not enforce the law, but it was their legal ability to do so that gave them something to exchange (Moore 1973: 728). As a result, these networks created significant rents, both for the income of the officials concerned and for local government revenue. This revenue increased the popularity of the key local politician, the *Bupati*, who could then use expanded provincial budgets to support projects and programmes that offered opportunities to clients and followers. Over time these exchanges generated the *de facto* institutional arrangements that governed access to the forests. Here direct personal ties based on reciprocity substituted for the strong *de jure* institutions of the State or the informal *adat* regulations of the community. In this way, the locus of control over access and use of forest resources shifted from the village and *adat* heads up to the network of functionaries formally responsible for implementing regulations. In this context, as we will see, outside agencies — including NGOs and large donor projects — that intervene to change the local rules of the game face substantial obstacles.

Resolving the logging problem

Community-based conservation in Menggamat

Over the last decade several NGOs have experimented with using local customary institutions as a basis for conserving natural resources. Their interventions broadly reflected what is internationally known as community-

based conservation (CBC) or community-based forest management, an approach that resonated with the emphasis on community participation and sustainable development within development literature (Barber 1996: 3; Chambers 1983; Wells *et al.* 1992). As distinct from protectionist strategies that advocate the segregation of people from nature on the one hand, and production-orientated resource utilisation on the other, the CBC philosophy has advocated the coexistence of people and nature. As such, CBC has represented a convergence of two agendas: the advocacy of property rights for indigenous and traditional peoples, and the advocacy of nature conservation.

In 1994 WWF's Leuser Project (WWF-LP) chose Menggamat as a site for community-based conservation activities. The following year WWF-LP embarked on wide-ranging consultations with community leaders regarding WWF-LP project activities and local problems. Amongst other things, WWF-LP project workers discussed the likely impact of the uncontrolled logging in the Menggamat watershed on villages and agricultural areas.³⁹ At this time virtually all the village leaders and the *kepala mukim* were involved in logging. Even so, WWF-LP found that the *kepala mukim* and other key *adat* leaders supported the proposed community conservation activities. As one project worker later reported:

If the *adat* leadership agrees, the village heads agreed. In principle, the *kepala mukim* carried the thirteen village heads, so it is the *kepala mukim* that decided. We didn't look to see if he was involved in logging or not, what was clear was that he backed [the WWF-LP activities], which meant that he could change, this was our principle... We didn't attempt to prohibit logging; we didn't have power to prohibit them... Also we understood that the community needed to meet their everyday needs... We offered an understanding to them that if this [logging] continued, what the impact on the community would be like... We tried to offer an appreciation like this to the *adat* heads.⁴⁰

Key *adat* figures supported the presence of WWF-LP in Menggamat.⁴¹ As Barber (1997) noted, these activities and the subsequent creation of a new community organisation (YPPAMAM) 'gave anti-logging traditional leaders a forum to express their views'.

Teuku Titah Aman, the most popular traditional leader in the area, noted that 'up to now, whenever anyone spoke about traditional law, they were always branded as voices of the past, people out of tune with current reality' (Barber 1997: 16).

In the course of community consultations, WWF-LP also began investigating pre-existing *adat* rules for managing

the forest. Following experience gained elsewhere, WWF-LP hoped a revived *adat* regime would provide the foundation for a community conservation forest (CCF). By this time, the notion of a CCF and an 'extractive reserve' had gained currency in Indonesia and elsewhere (Peluso 1992b; Salafsky *et al.* 1992).⁴² WWF-LP envisaged that, if local villagers collected forest products in a CCF behind Menggamat on a sustainable basis, the CCF would also provide income while securing local water and forest resources.

In order to develop the idea, WWF-LP surveyed the forests behind Menggamat. These surveys estimated that there were approximately 10 660 trees (*Shorea* spp.) in the Menggamat area that could yield *damar* resins.⁴³ WWF-LP calculated that each tree could produce 4 kg of *damar mata kucing* every three months. Based on a market value of 600 Rp/kg, in 1995 the forest could produce Rp 10.6 million per quarter. With higher prices, the *damar* forest could yield up to Rp 170.6 million per year. In addition, the Menggamat forests could also yield *keruing* oil, rattan and other forest products. WWF-LP calculated that, in comparison to the long-term income from sustainable harvest of the forest and the protection the watershed forests offered to local rice farming, a one-off logging operation could yield an estimated Rp 26.7 billion. However, while living with the agricultural damage caused by lost watershed functions, and without the income from forest resources, villagers would have to wait another 150-400 years for forest regrowth (Effendi 1998; WWF-LP 1995b).

After consultations with regional government and the forestry department, a group of Menggamat leaders drafted community regulations — drawing on *adat* rules and State regulations — concerning the proposed community forest. On 17 May 1995, the 13 village heads, the *imam mukim*, *kejuren blang* and religious leaders (*Ulama*) signed a formal village government decision establishing the CCF. The document bore the title 'Cooperative regulation of 13 villages in the Menggamat *Adat* Community ... concerning community conservation forest and natural resource management rights in the Menggamat *Adat* community area of North Kluet' (Pemerintahan Desa di Kemukiman Manggamat 1995).

In April 1996, WWF-LP and YPPAMAM made a formal approach to the Regional Forestry Office (*Kanwil*) requesting recognition for the CCF in accordance with the Minister of Forestry's 'Guidelines for community forestry' set out in a ministerial decree (*Keputusan Menteri Kehutanan Nomor: 622/Kpts-II/95*). To support their application, WWF-LP and YPPAMAM could show that *hutan adat* forests directly adjacent to the village had escaped the brunt of the logging while the forest

most heavily logged was the unprotected State forest (*hutan negara*) further out from the core villages.⁴⁴ They argued that, if *adat* regulations were extended to the *hutan negara*, forest management could be improved. Finally, on 5 December 1996, the Governor signed an agreement with the Leuser Management Unit (LMU), a European Union funded Integrated Conservation and Development Programme (ICDP), and LPPAMAM, recognising the CCF and setting out the terms for its management. The agreement granted a five-year, extendable management and use contract to a 13 810 hectare area (Barber 1997: 18). However, the exact borders and zonation of uses were still undetermined when in November 1998 the head of the Regional Forestry Office issued a formal decision establishing YPPAMAM's rights over the CCF (Dephutbun 1998). By this time the WWF-LP project activities had ended, and LMU had taken over responsibility for developing the CCF.⁴⁵

Although the creation of YPPAMAM and the community forest signified progress towards project goals, YPPAMAM and the CCF initiative still faced many challenges. The first problem was that, although village leaders had signed the document setting out the regulations to be applied in the community forest in May 1995, the 'wild logging' (*penebangan liar*) continued. In response, LPPAMAM appealed to the community directly through village discussions. In addition, YPPAMAM posted banners around Manggamat requesting a halt to logging.

'Help, don't cut the forest, we want to be safe from flood and poverty'. 'Possession and use of chainsaws without permission of the forestry department can be penalised with 10 years jail or fines of 100 million (*Keppres No. 21, 1995*)'.

'Those felling trees in forest without permission from appropriate authorities can face the penalty of 10 years jail or fines of 100 million (*Peraturan Pemerintah No 28, 1985*)' (Serambi Indonesia 1995c).

In October 1995, with a great deal of coverage in the local press, LPPAMAM began hitting nails into trees in the watershed forests of the Koto Indarung village territory extending to the border with South Kluet (Waspada 1995). Under the heading 'Overcoming Wood Theft: Nail Booby Traps Gain Support', a regional newspaper reported that Bintaro Yakob, the head of LPPAMAM, 'reminded people not to carry out illegal logging from now on because the embedded nails in the trees were dangerous for those using chainsaws' (Serambi Indonesia 1995c). A WWF-LP staff member, Abdul Hamid, stated that:

This action is born from a feeling of disquiet in the community about the recent conditions resulting from increasingly violent and arbitrary

acts by illegal loggers. This expresses the concerns of the community regarding the protection of forest resources that bear directly on the life around the forest — for example, the supply of water for sawah, preventing the danger of flood and plant pests such as pigs and rice blight (Serambi Indonesia 1995c).

Touching on the crux of the issue, Abdul Hamid suggested that, to maintain the Manggamat area, government agencies and decision-makers should consistently implement the law.

In summary, while WWF-LP's ambitious intervention in Menggamat made significant progress on several fronts, it faced problems that proved intractable. The most significant obstacle occurred at the district level: WWF-LP's activities in Menggamat and across the district more generally challenged the networks of power and interest supporting logging, not only endangering the material base of the web of exchanges surrounding *cukong*, *tauke* and local *oknum* involved in logging in South Aceh, but threatening the foundations of the local budget. As a WWF-LP report later noted, the local government agency had benefited from the proceeds of logging for many years. They believed that WWF-LP's conservation initiatives would 'gradually reduce revenue either from legal or illegal logging retributions' (Perbatakusuma. 1997: 5). While the Governor of Aceh signed the agreement establishing the Manggamat Conservation Forest, the major local politician, the *Bupati*, made no steps towards achieving the goals of this statement. A WWF-LP paper reported that he said 'WWF is only an international NGO working to conserve the Park. It has no right to intervene [in] our resources management' (Perbatakusuma *et al.* 1997: 5). When WWF-LP management attempted to extend the project beyond the original two years, they required a letter of support from the *Bupati* and Governor, and this support was not forthcoming.

The second problem occurred within the community itself: in the short term, the CCF struggled to gain support from some of the village heads (*keucik*) heavily involved with logging. As noted earlier, if the village heads withdrew from logging, they would merely sit by and watch outsiders collect the spoils. While the village heads collected 'taxes' levied on loggers and logging trucks or even functioned as *tauke* themselves, it was not in their interests to support the implementation of the proposed CCF. In 1996, this conflict of interest hindered the reaching of agreements in two annual meetings of the 13 village heads comprising Kemukiman Menggamat. Every time supporters of the conservation initiative brought up the illegal logging issue, village heads owning chainsaws left the meeting (Barber 1997).

Yet this issue was not necessarily insurmountable: in taking a community-based conservation approach, WWF-LP realised that the logging problem could not be overcome in the short term. WWF-LP did not primarily work to forbid community members from logging: through education, community-level discussion, and advocacy, WWF-LP hoped to foster a community learning process. As project workers explained to the community what the long-term effects of logging would be, the community was encouraged to consider the impact of uncontrolled logging over the long term on local livelihoods. This strategy would not bring results immediately, but as the community experienced the environmental impact of the logging in terms of floods and other environmental damage, WWF-LP was confident that many members of the community would support conservation activities. This strategy required a long-term commitment to the area, something that circumstances did not finally allow.⁴⁶

Third, community-based conservation attempting to build a conservation program on *adat* principles proved difficult. The problem was that, in attempting to construct a CCF according to revitalised *adat* principles, the intervention faced the problem of trying to build on sociolegal principles subject to renegotiation. *Adat* community arrangements regarding local resource use develop in association with specific local conditions. The *adat* of the past that was associated with maintaining the local environment reflected a situation where timber had not been harvested for commercial gain. By the mid-1990s logging of forests in South Aceh by concessionaires and outside illegal logging interests was widespread: communities had now grown accustomed to gaining income from mining timber resources (Perbatakusuma *et al.* 1997: 4).⁴⁷ In a time of economic difficulty, timber was the most valuable and readily accessible resource. If *adat* leaders and the villagers did not participate, they risked missing out on the benefits of logging their forests altogether. In this context community-based conservation would not simply involve a return to *adat*.

Consequently, both the conservation intervention and logging practices found latent inclinations within *adat* that could support their ends. Building on previous practices of levying fees on access to local forests, for *adat* leaders reasserting the community's *adat* rights over local forest meant charging what might be called an *adat* fee on logging operations. In other words, the informal *adat* rules could shift to allow logging. At the same time, WWF-LP/YPPAMAM consultations with older *adat* leaders who disagreed with the logging make possible the 'revitalisation' and reshaping of *adat* arrangements to support community-based forest

management. The CCF was based on the idea of generating income by extracting non-timber forest products rather than logging: in the name of *adat*, the WWF-LP/YPPAMAM proposal involved imposing CCF regulations that would stop logging operations. However, at this time the CCF rules were virtually unenforceable, and they were not necessarily the same as the practices of Menggamat's *adat* leaders. Within the Menggamat community, most *adat* leaders were involved in logging, and there were differing viewpoints regarding the proposed CCF rules. Some community leaders opposed the proposed CCF. As a possible solution to this problem, in 1996 some members of the community had advocated that WWF-LP 'regularise the cutting of timber in a sustainable manner as a source of income and support for conservation' (Barber 1997: 18). By granting the local community limited logging rights within Menggamat forests, such an initiative might attempt to regulate *de facto* practices in the surrounding forests. However, working within the constraints of the community forestry laws operating at this time, the CCF agreement for Menggamat could not allow for small-scale commercial logging. Therefore, while WWF-LP began its activities by allying itself with *adat* leaders, but this strategy subsequently in turn faced major obstacles.

Finally, the outcome of this battle over 'the soul of *adat*' seems to be at least partly determined by how effectively either the WWF intervention or the logging could offer villagers a viable strategy of survival.⁴⁸ If it was to succeed, the CCF strategy needed to offer the Menggamat communities a viable economic alternative to logging. Yet, in 1996, few believed that non-timber forest products by themselves could supply 'the growing demand for cash income needed, for example, to send children to school in the cities' (Barber 1997: 18) Although the idea of harvesting non-timber forest products made sense on paper, villagers doubted whether it would work. In 1999, as a former WWF facilitator observed, a well managed *damar* tree could yield 1 kg of *damar* per day. Accordingly, when *damar* prices rose from 2000–2500 Rp/kg before the economic crisis to 7000–8000 Rp/kg, in Krui in South Sumatra, farmers tapping *damar* trees had become wealthy.

We are sure [it will work]. But the community is not sure, because the community only appreciate facts that already exist. Only when they see it as a reality, then they will try.⁴⁹

As well as requiring the provision of a reliable market and better techniques for gathering the *damar*, developing *damar* collection as a sustainable economic basis for the conservation of the CCF would require several years of acculturation as well as demonstrated success. To this end, following the end of WWF-LP activities,

former WWF-LP staff formed another organisation (Yayasan Bina Alam Indonesia or YBAI), and with the support of LMU, continued to nurture the development of the CCF. However, although there has subsequently been some progress in securing the *de jure* status of the CCF according to law and in training *damar* collectors, when the security situation in South Aceh began to deteriorate in early 1999, the CCF concept still awaited effective development.

Other agents of change: Economic crisis and reform

WWF-LP's intervention struggled in the face of the logging networks and their political backing. However, during 1997–98 a range of changes affected the scale of logging activities. Together these changes transformed the situation in Menggamat, causing the tide of uncontrolled logging to begin to recede. While logging continued across South Aceh, for several reasons logging in Menggamat was now on a much smaller scale.

The first and most significant factor was the economic crisis (known as *krismon*) that led to wide fluctuations in the dominant socioeconomic realities shaping local life. In late 1997, as the value of the rupiah sank, coincidentally the US dollar value of patchouli oil skyrocketed. These twin influences led to a drastic increase in the local price of patchouli oil from around 35 000 Rp/kg in 1995, first to 150 000 Rp/kg in early 1997 and then to around 1 080 000 Rp/kg at the beginning of 1998. If a one-hectare crop of *nilam* yielded 64 kilograms of oil, as *nilam* farmers suggested, a single hectare would produce a profit of around Rp 20 million, enough to build a house or buy land.⁵⁰ Those villagers who had abandoned logging and, at the suggestion of WWF-LP and YPPAMAM, switched back to *nilam* cultivation some months earlier, began to reap windfall profits. Subsequently, the contagion of '*nilam* fever' (*demam nilam*) spread across South Aceh.

With spiralling prices and the collapse of many cash jobs in the towns due to the economic crisis, shopkeepers, public servants and forestry officials also began to cultivate unused areas of land, even behind government offices. In Menggamat farmers were now prepared to open new plots in distant forest areas. At this time the rate of opening land increased dramatically — mostly on steep land close to the village and in secondary forest near remote hamlets located far up the Kluet River. As long as the boom lasted, villagers involved in logging switched over to *nilam* farming. Many loggers sold their chainsaws to obtain capital for

opening *nilam* plots. As wood supplies dried up, *cukong* now used their capital to buy *nilam* oil and trade it with wholesalers from Medan.⁵¹

However, the *nilam* boom was based on a commodity price fluctuation, and the first *nilam* crops could only be harvested seven months after planting. By mid-1998, *nilam* prices began to fall, just as many of the crops planted during the previous wet season began to be harvested.⁵² As so many farmers had opened plots, *nilam* production increased just as demand slackened. According to farmers, in 1998 values *nilam* was only worth growing if prices were higher than 500 000 Rp/kg; by January 1999, *nilam* had fallen to 160 000 Rp/kg. As early as October 1998, villagers had begun to turn back to logging. Yet in the meantime other factors had changed, and logging was now on a much smaller scale.

Krismon had affected the sawmill operations on a broad scale. While there had been ongoing raids against illegal loggers over the 1990s, this had never curtailed the illegal logging: the sawmills had operated with apparent impunity. Nonetheless, the economic crisis initially led to a collapse in demand for wood from Japan, South Korea and Taiwan, and the international price for plywood fell by 40% during 1997–98 (CIFOR, 1998).⁵³ By October 1998, provincial officials estimated that half the sawmills in South and West Aceh had closed or gone bankrupt. This was due to the high cost of components for imported sawmill machinery as well as the difficulty in obtaining wood supplies.⁵⁴ In a similar fashion, the number of sawmills in North Kluet dropped from the seven that had operated there at the height of the wood boom to only two, and even these worked sporadically — when there was wood.

Clearly, the economic crisis had also hurt the *cukong* — they no longer had the capital to support large-scale logging operations. Before the economic crisis, a *cukong* might provide capital to several *tauke*, and each *tauke* would have several chainsaws and logging teams. However, following the economic crisis a *cukong* could only afford the capital for one *tauke*. At the most a *tauke* would have three chainsaws, and sometimes only one.⁵⁵

A second factor was also very significant: logging in Menggamat was becoming increasingly less viable due to the difficulty of obtaining high quality timber. As one informant explained, sometimes there was not enough wood even for one sawmill to function.

Logging is much reduced now. Now there is no wood. Operational costs are too high compared with the profit to be gained. Before it just took one day; now it takes a few days to reach the forest.

Previously, there was a lot of timber close to the river, and it didn't entail operational costs in getting it. Before loggers only needed to put the wood into the river ... Now they must pull it long distances as well. One log needs two to three people. The sawmills were right next to the river, and before it was much easier to float wood down to sawmill. So there were no operational costs.⁵⁶

Consequently, at the time of the author's last visit to the area in January 1999, while the logging of Manggamat forests continued, it was now occurring on a much smaller scale.

A third dynamic, although perhaps not as important as the first two in determining what had occurred in Menggamat, also affected logging operations in South Aceh. In the wake of *krismon*, the political changes known as *reformasi* led to significant shifts in the power of the local network of power and interest that previously drove the logging. In early 1998, South Aceh obtained a new *Bupati*. According to local sources, the new *Bupati* was a relative of a senior figure involved in Yayasan Leuser International (YLI).⁵⁷ YLI had long enjoyed influence at the centre: in 1998 President Suharto issued a presidential decision clarifying the formal legal standing of YLI/LMU's ICDP management activities in the Leuser Ecosystem, and the Minister of Forestry in the transitional Habibie government was a former member of YLI. Now, a district forestry official asserted, YLI had used their considerable influence in Jakarta to ensure the selection of the *Bupati*. Accordingly, the new *Bupati* supported YLI initiatives. He discontinued the previous policy of tolerating illegal logging in the name of raising local revenue and also attempted to have the leases of HPH terminated.⁵⁸ Partly as a consequence, in 1999 the local government faced a large decrease in local government incomes.⁵⁹

The fall of Suharto in May 1998 led to a more open political atmosphere and a movement against what Indonesians referred to as 'corruption, collusion and nepotism' (KKN). In the latter half of 1998, this change provided an opportunity for various student and other community groups to campaign against KKN and illegal logging in South Aceh. In June students met with police and military leaders in the presence of the *Bupati* to protest against the behaviour of officers involved in logging.⁶⁰ Responding to this mood, the *Bupati* discussed replacing all regional government officials who were considered to be involved in KKN.⁶¹ In this context, local officials could no longer so unashamedly accept payments for supporting logging operations. The police and army posts that formerly demanded payments from logging trucks in every subdistrict were no longer tolerated.

During 1998, the *Bupati*, a senior YLI figure and former *bupati* and local groups discussed how the degraded watershed forests were no longer carrying out their hydrological functions. After heavy rainfalls streams quickly flooded, and streams tended to dry up quickly after the rains. Over the previous months severe floods had hit South Aceh. Moreover, the *Bupati* noted, 29 irrigation systems in the district faced water shortages, affecting agricultural production that in turn had 'a serious impact on local farmers'. In South and North Kluet areas, irrigation systems serviced by the Kluet River could not meet planting schedules due to water shortages.⁶² These problems were now ascribed to the damage caused by fifteen years of unsustainable logging associated with logging concessionaires working the district and the illegal logging networks that had been sustained by local KKN.⁶³

Protesting against logging operations, the new community groups went on the offensive, calling for the cancellation of logging operations (IPK) and timber concessionaires (HPH) in the district.⁶⁴ In August 1998 the most vocal group, *Rimueng Lamkaluet* (Acehenese for 'Tiger Meditation') wrote to the Minister of Forestry calling for the immediate cancellation of all HPH and IPK working in Aceh Selatan. If they were not cancelled by October 5, *Rimueng Lamkaluet* threatened to 'run amuck' and 'burn to the ground' the base camp of IPK and HPH that refused to leave the area.⁶⁵ Local religious leaders, officials and village heads supported the threats.⁶⁶ LMU was understandably comfortable with these developments and coordinated with these groups.⁶⁷

As a consequence, in South Kluet, an area adjoining Menggamat, in late 1998 the forestry department imposed a temporary moratorium on the operation of one concessionaire, PT Medan Remaja Timber, pending a field investigation. Since 1996 another NGO, Yayasan Leuser Lestari (YLL) had provided detailed reports to the authorities on the illegal activities of this concession. Local people held the concession responsible for flooding, irrigation problems and building a road 'through a village's crops without talking to the villagers' (Newman *et al.* 1999: 39). Finally, in April 1999, 'frustrated by the slow pace of negotiations after the team's inspection, 400 people and students burned the company's base camp to the ground'. The government also withdrew the company's licence.⁶⁸

Nonetheless, the effects of the economic and political changes that had worked against the logging networks during 1997–98 proved to be temporary. While a number of actors attempted to make the most of the opportunity for curtailing the logging networks, in 1999 the balance of power also moved back towards the logging networks.

In economic terms the demand for wood had now increased and, with few other economic opportunities available to impoverished villagers, reports of widespread logging activities in the Leuser Ecosystem became common. By the middle of 1999, the ‘wild logging’ of remaining areas of lowland rainforest was now occurring in adjacent areas of South Aceh. In South Kluet in mid-1999 an investigative report by two NGOs noted that:

While trekking the team saw areas of the National Park devastated by logging, heard chainsaws in most directions, witnessed the felling of trees within the park and learned the location of the sawmills receiving the stolen logs (Newman *et al.* 1999: 35).

The logging networks involved *cukong/tauke* following the *modus operandi* discussed earlier. By March 1999, the logging teams had even moved into the Suaq Balimbing Research Area, an internationally renowned orang-utan research site located within the boundaries of the Gunung Leuser National Park and a focus of LMU’s forest protection efforts. ‘By July it was estimated that about 100 loggers were operating within the study area, based at 24 logging camps’ (Newman *et al.* 1999: 37). The NGO report observed that this was a time of political instability and, with a separatist movement now operating in Aceh, law enforcement had deteriorated to the point that ‘authorities drop any pretence at even trying to deal with the problem’ (Newman *et al.* 1999: 38).

The new reformation era of Indonesian politics has shifted some of the power to those who wish to oppose the law for political or financial reward... Coupled with this are local timber barons with military and police support, who are exploiting this current power vacuum (Newman *et al.* 1999: 31).

Conclusions

In Indonesia, foreign donors have supported ambitious projects that aim to encourage more sustainable management of endangered tropical rainforest ecosystems. Despite the large sums of money invested so far, at best these projects have met with very mixed results (Wells *et al.* 1999).⁶⁹ Yet it is perhaps of little surprise that they have experienced considerable difficulties. State policy-makers wishing to enforce laws or implement policy in distant provinces face complex situations that bedevil the straightforward implementation of neat project designs and strategic plans. One of the most significant problems these interventions has faced has been district-level networks of power and interest such as those involved in illegal logging.

This paper has examined the operation of the web of political, economic and social exchanges surrounding logging at the district level — what Indonesians refer to as a *lingkaran setan* or ‘vicious circle’.⁷⁰ Local entrepreneurs (*cukong*) formed accommodations with some local government officials working outside the legal framework (*oknum*), and these *oknum* then in turn allowed (or participated in) rent-seeking behaviour that disregarded legal norms. At the same time, the *cukong* and *tauke* encouraged local villagers to provide labour for logging and paid ‘taxes’ to local leaders. In this way community members — who faced losing out completely unless they joined the logging networks — also became involved. As the control of community leaders over community property came under challenge, they responded by attempting to ensure the village and its leaders benefited from the ‘wild logging’. Consequently, the *adat* leaders became involved in the wider webs of patronage surrounding logging. As a result of these changes, to a large extent the locus of control over access and use of resources that had once rested with local *adat* leaders shifted upwards. The *oknum* and entrepreneurs, however, did not totally appropriate local property rights over forest territory. In contrast to many logging concessions, this arrangement allowed the local community to gain a share of the stream of benefits derived from logging.

An NGO tried to implement a community-based forestry initiative in this complex situation. Attempting to build upon aspects of the *adat* regulations that had related to the forests, the NGO helped the community craft rules in a form that could nest within the wider State legal framework. The aim was that a new community conservation regime would guard the limiting conditions under which local agriculture operated while generating income for local villagers. However, this intervention faced several obstacles that were ultimately insurmountable. The most significant problem was that key officials and even some village heads supported the logging while the *Bupati* valued its contribution to regional budgets. These *oknum* collectively had a tacit but effective veto over the working of the community forest initiative. Without their support, the community leaders who backed the WWF-LP plan could not effectively implement the new regime. At best, *adat* heads could defend *adat* property rights over surrounding forests by charging the loggers a fee. Furthermore, many villagers had become economically dependent on logging, and the rapidly shifting economic forces continued to drive local villagers to mine forest resources. In the short term at least, the proposed conservation regime could not guarantee village livelihoods and therefore struggled to get off the ground.

During the Suharto period, the Indonesian State has often been portrayed as a highly centralized, bureaucratic, hierarchical and comparatively strong State where, at least formally, the central government made the key decisions. Yet this paper shows that, in the face of the institutionalized relationships and accommodations found at the district level, clearly the power of the Indonesian State to implement laws, especially in remote districts, has been much more limited.⁷¹ This suggests that, even before *reformasi* and the recent initiatives to decentralize State functions, the management of local resources was already highly localized: district elites operated with a large degree of independence from central government supervision. While all too often the Indonesian political system has been described as a highly centralized one, this indicates that the 'tyranny of the centre' to some extent may have been overstated. Rent-seeking by actors at the district level — including *oknum* involved in district government — has long occurred outside the effective control of the central government.

Yet district networks of power and interest underpinning the logging operations were not isolated from wider changes.⁷² Clearly the most significant change was that in wood stocks. As Menggamat's most accessible forests had been so heavily logged, the costs of obtaining logs made logging operations in the area increasingly expensive. In addition, the economic crisis pushed the local timber industry into serious trouble and led to the virtual collapse of local logging networks. These changes were reinforced by the political changes following the resignation of Suharto and the movement against KKN that opened by opportunities for NGOs, community groups and others to oppose logging concessionaries and the illegal logging networks. The wielding of patronage at the centre influenced the selection of the key politician, the *Bupati*, changing the person occupying the primary office in local government. By generating an atmosphere less tolerant of clientelist logging networks, for some time these changes altered behaviour of officials throughout the district. In South Aceh these changes were supported by the emergence of informal actors who, at a time of political uncertainty, vigorously protested against logging operations.

Following *reformasi*, State forest policy faced a crisis of legitimacy in many areas of the outer islands. Moreover, the State had less political will and a weakened capacity to enforce environmental laws. This meant that, as the demand for timber bounced back over 1998–99, during the economic crisis depressed local communities have increasingly turned to logging (DFID and WWF Indonesia 1998). The drift towards illegal logging was exacerbated in South Aceh. As separatist aspirations

spread to South Aceh during 1999, resentment of central government took root, undermining the legitimacy of and the compliance to State laws in many aspect of life (Soedjiartono 1999). As resistance to State law also extended to the State forestry regime, logging networks have re-emerged with a new vitality. Consequently, while the crisis may have initially opened opportunities for curtailing illegal logging, this proved to be only a temporary effect.

Towards sustainable community-based forest management

Finally, I wish to consider the important implications of this particular case for conservation interventions more generally. Through considering the obstacles that proved insurmountable to outside intervention in this case, I wish to make some tentative suggestions regarding the conditions that will support project interventions.

The community-based conservation intervention discussed here attempted to accommodate community interests and concerns. In contrast with State-centred approaches, it recognised the need to work with the actors who ultimately define forest outcomes. Beginning with consultation and community dialogue at the village level, this approach attempted to build upon *adat* arrangements that mediated community interests. However, as *adat* changes with and reflects its context, the circumstances that favoured the more sustainable *adat* of the past no longer existed. In a community that had become dependent on logging, *adat* arrangements reflected this reality. Moreover, within a community there is no single view — within the living tradition of customary law, rules and their interpretation are subject to constant interpretation and negotiation. While some benefited from logging in the short term, others were closely associated with the conservation project and were able to take a long-term view. This suggests that *community-based conservation cannot proceed simply by 'going back to adat', that is, by merely 'revitalising' the adat regime that may once have provided a sustainable resource use regime. Community adat rules will need to be renegotiated.*

Yet, it is likely that finding a sufficient consensus regarding rules to regulate resource use will take a long time. This will require a consensus amongst community leaders about the need to contain the deleterious effects of logging. As Ostrom's (1992) work suggests, forming community agreements to regulate resource use will probably be just a first step towards overcoming a series of collective action dilemmas to ensure sustainable resource use.

Moreover, project interventions where logging networks have taken root may need to find viable livelihood alternatives for local communities that do not involve logging and clearing extensive forest. Given the lucrative (if unsustainable) nature of logging and the difficulty of finding other livelihood options in the short term, few NGOs can provide livelihood alternatives that can rival logging. This suggests that, even if local communities understand the environmental impact of logging, there will be few incentives to change in the short term. By the time the community shifts to other activities, the forests may have been extensively logged, and the logging frontier may well have moved on. Therefore, *community-based project interventions may require a long-term horizon. Even then, it will be difficult for project interventions to succeed before widespread environmental damage has occurred. The community may not shift to other activities before logging becomes economically unviable.*

This study has shown how logging networks with vested interests in unsustainable harvesting of forest resources can constitute the most significant obstruction to biodiversity and community forestry interventions. Logging networks involving a web of entrepreneurs, sawmill operators and accommodating local officials can dominate local district government decision-making. This tendency can be reinforced because, at the district level, there are usually few incentives for sustainable use of resources in the short term: regional governments often do not share national and international concerns for biodiversity conservation (Kaimowitz *et al.* 1998). If local ‘taxes’ — both official and otherwise — are levied on logging operations, this network can make a significant contribution to district budgets. Cash-starved district governments eager to increase revenues may be happy with these arrangements.

When faced with district level networks of power and interest of this kind, outside interventions are unlikely to succeed. If they are to prevail, they may need substantial support from senior office holders, and most importantly the most senior office holder in the district. These office holders can help to curb the behaviour of local officials tempted to form accommodations with logging networks. Accordingly, *to curtail logging networks and the system of accommodation that supports them, outside interventions will need the support of senior district office holders able to rein in local officials.*

A conducive political environment will increase the chances of a positive outcome. The existence of a vital civil society in a district, including supportive journalists, NGOs and community groups will foster understanding in the wider community concerning environmental values

and particularly how ecological degradation undermines the viability of village livelihoods over the longer term. With community support and the support of key local office holders, an NGO or conservation project may more effectively mobilize a coalition against logging networks and apply pressure on key decision-makers at the local level. However, without at least some of the other factors suggested here, as this case demonstrated, it is unlikely that a favourable political situation alone will work against unsustainable logging. *While actors within civil society who have an interest in reform and are able to effectively apply pressure on key decision-makers at the local level can support outside interventions, clearly positive political changes (such as reformasi) will not necessarily lead in the direction of more sustainable forest outcomes.*

The law may have a role in outside interventions, but State forestry laws have had little legitimacy in the eyes of local people. Until some of the initiatives opened by recent policy innovations in Indonesia, the land-use practices and associated property rights of local communities lacked formal recognition within the State forestry regime. At the same time, large-scale logging concessions controlled by urban elites have logged local forests, failing to recognise local community property rights and causing extensive costs to farming communities. However, despite their formal ‘invisibility’, in many areas these local *adat* regimes have continued to prevail to various degrees. While State laws have not allowed for small-scale logging by local communities, despite attempts to outlaw it, it occurs on a very wide scale. The large gap between the formal law and the reality of many forest practices has meant that all too often State laws remain ‘so many black ink markings on paper’ (Griffiths 1995: 213).

Furthermore, in remote districts, local officials usually have neither the means nor the political will to implement the law assiduously. Therefore, where the legal system has little legitimacy or force, forest protection cannot rely on the law. Indeed, recent State policy documents, such as *Agenda 21-Indonesia* recognise the limitations of legal instruments and acknowledge that policy-makers clearly possess an arsenal of other policy instruments to achieve goals in the area of biodiversity conservation (KLH and UNDP, 1997). Clearly, reform cannot proceed merely by passing laws that outline how things ought to be and attempting simply to outlaw activities that do not fit the vision. *Successful interventions cannot be achieved simply through creating new laws or policies and then enforcing or implementing them.* Rather, forest management efforts might more profitably begin with the *de facto* institutional arrangements and work outwards from here through building upon and regulating *de facto* activities. New project initiatives need to work within

the formal law, and law reform is relevant to the extent that it confers legitimacy to and facilitates this process.⁷³

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Endnotes

¹In early 2000, the World Bank and other foreign donor agencies have focused on this critical problem, even discussing the possibility of delaying essential economic assistance until forest management was improved (Cohen, 01/27/2000).

²South Aceh district is ethnically diverse, and as it is located on the border of North Sumatra, it has long existed on the periphery of Aceh. Between August 1996 and January 1999, when this research was undertaken, South Aceh was very peaceful. If there were problems in Aceh during the period when the province was a 'military operational area' (DOM), they were relegated to the Acehese hinterland to the far north, to Pidie and Aceh Besar, areas reached only after a ten or twelve hour bus trip. During 1998, following the fall of Suharto, Indonesia entered a new era of openness, and across the archipelago people began to talk about the abuses of recent history. As the people of northern Aceh spoke of the recent human rights violations there, NGOs and human rights activists began to help investigate the problems. Investigators unearthed mass graves bequeathed by the previous decade of military operations. At this time a sense of outrage and injustice mixed with economic grievances against the Jakarta government generated an passion for Acehese independence. By the end of January 1999, demonstrations in Northern Aceh were already escalating

into conflicts. Over the ensuing months, support for an East Timor style referendum on independence flourished. By the middle of 1999, the conflict began to creep south towards South Aceh, and by August that year South Aceh was drawn into a shadowy but violent conflict in which the protagonists often remained unclear.

³The *Leuser Development Programme Masterplan* (Rijksen and Griffiths 1995) envisaged that the management problems associated with the area would be addressed by delegating management responsibility for the Leuser Ecosystem to a new organisational structure, the Leuser Management Unit. Under a later presidential decree (Keppres No 33/1998), the Leuser International Foundation (Yayasan Leuser International or YLI), a foundation established by a number of prominent Acehese — mostly current or retired government officials resident in Jakarta — was granted a 30 year management agreement with the Ministry of Forestry to 'assist (*membantu*) the Government in carrying out area management'. LIF then delegated responsibility for programme management and activities to the Leuser Management Unit who were entrusted with the implementation of the Leuser Development Programme.

⁴Menggamat is also sometimes written Manggamat.

⁵*Nilam* or patchouli (*Pogostemon cablin*) is a cabbage-sized leafy plant that grows to a height of 30–70 cm. By distilling the dried *nilam* leaves, farmers produce patchouli oil, a product used in cosmetics and perfumes and now popular with aromatherapists (Publikasi/Dokumentasi, 1970).

⁶In 1980 the Minister of Agriculture (then responsible for forestry) asked each provincial Governor (in areas outside Java) to prepare a plan for the spatial allocation of forest land use. Known as the Forest Use Plan Consensus (*Tata Guna Hutan Kesepakatan* or TGHK), the process led to the creation of maps dividing the geography of 'outer island' Indonesia into 'permanent forest' that included conservation areas and 'production forest' and areas that could be converted for other uses 'outside forestry'. Nature reserves were set aside after weighing up factors such as the physical and development needs of the region, presence of important germplasm ('plasma nutfah') in the forest, importance of areas for science, tourism or 'development in general' (Kehutanan 1992: 10). Criteria for dividing areas of permanent forest (i.e. areas not to be converted) between these conservation areas and production forests included factors such as steepness of land, soil type, degree to which it is subject to erosion and intensity of rainfall. After intersectoral discussions at the regional level, regional TGHK were prepared and recorded on provincial maps known as peta Rencana Pengukuhan dan

Penatagunaan Hutan (RPPH). After Ministerial agreement at the national level, ministers then signed these maps. Subsequently, the Ministry of Forestry continued to use the TGHK and associated maps as the basis for allocating HPH and HTI, even after the passing of the spatial planning act.

⁷Interview with T, Tapaktuan, 6 January 1998.

⁸Interview with A, Dinas Kehutanan, 15 January 1999.

⁹Line office of the department of industry.

¹⁰In 1996, the regulations were changed, and sawmills had to obtain SAKO directly from forestry.

¹¹Interview with A, Dinas Kehutanan, 15 January 1999.

¹²For instance in the 1990/91 fiscal year PAD contributed only Rp 469 million to the APBD of Rp 12.2 billion, or only approximated 1.5% of district revenues (Badan Pusat Statistik Kabupaten Aceh Selatan, 1992).

¹³In the course of fieldwork, informants in South Aceh often praised the earlier Bupati, in regard to his ability to raise revenue and initiate projects. In 1991, reporters from the national daily, *Kompas*, were also impressed by his ability to raise funds (Kompas 1991).

¹⁴As *Waspada* reported in 1998: 'According to Sayed Mudhahar, actually the receipts from timber royalties (*Iyuran Hasil Hutan* or IHH), Reforestation Fund (*Dana Reboisasi* or DR) and Tax on Land and Building (*Pajak Bumi dan Bangunan* or PBB) are an immense sum, as large as Rp. 2-2,5 trillion. Yet, he said, for the region [ie district], as indicated by budget (APBD) for the forestry sector, it [ie the contribution to the district budget] is only as large as Rp. 15-20 billion each year' (Waspada 1998).

¹⁵Interview with N, Menggamat, 9 January 1999.

¹⁶Interview with J, Tapaktuan, 5 January 1999. It is difficult to confirm this from official figures because local government figures appearing in reports are not transparent. As Devas *et al.* have noted some years ago, in provincial budgets, *retribusi* — including those levied on forestry operations — are not disaggregated but tend to be grouped together under the category of 'other' (Devas *et al.* 1989: 81).

¹⁷Aceh has long demanded a larger share of the revenues it was sending to the centre. According to one report, 11% of the Indonesian national budget revenue came from the export of Aceh's natural resources. The amount returned in the form of central subsidies (*sumbangan daerah otonom*), the main source of regional income, was relatively small (Erawan 1999). For instance, according to one estimate, Jakarta siphoned off about \$4 billion a year in natural-gas revenues and sent back less than 1% of that in development aid (Moreau 1999).

¹⁸Interview with J, Tapaktuan, 5 January 1999.

¹⁹This translates into Bahasa Indonesia as *petua empat*, or four elders.

²⁰At one time, the fee had been incorporated into colonial legislation governing taxes on forest use (Adatrechtbundels 1938). When loggers wanted to begin logging operations in Menggamat, they needed to approach the head of the *adat* community in whom (according to village norms) authority over what was still considered community property was still vested.

²¹Interview with M, Tapaktuan. The subdistrict head (*camat*) and the district council (*Muspika*) vetoed several YPPAMAM and Kemukiman decisions.

²²Interview with O, Manggamat, January 1999.

²³In historical times this fee was known as the *pantjang alas* or *bunga kayu*.

²⁴Interview with Z, Manggamat, 8 February 1998.

²⁵As Devas *et al.* (1989) note, this is common practice in the outer islands of Indonesia. Indeed the *adat* fee on access to forests (*pantjang alas*) had been this sort of charge.

²⁶In theory it should not be difficult to control access to the Menggamat forests. There is only one road out of the area or one river to float logs down. Over time villages set up posts on the road to enforce the collection of village taxes (*uang pembanguan*).

²⁷Interview with M, Tapaktuan, 5 January 1999.

²⁸Interview with *nilam* farmers, Desa Mersak, 6 February 1998.

²⁹Interview with C, district official, Manggamat, 6 February 1998.

³⁰Interview with villagers, Menggamat, 12 February 1998.

³¹Interview former WWF personnel, Tapaktuan, 14 January 1999.

³²'If the person behind slipped,' said a villager, 'you could be killed, but it wasn't hard once you got used to it.' A former logger described watching his friend decapitated by a bundle of planks gained speed on a steep slope. 'It doesn't matter how much they pay,' he concluded, 'I will never do it again'. Interview with S, Menggamat, 8 February 1998.

³³Interview with loggers, Desa Mersak, Menggamat, 8 February 1998.

³⁴Interview with *camat*, Kluet Utara, 6 February 1998.

³⁵Interview with loggers, Desa Mersak, Menggamat, 8 February 1998.

³⁶Interview with S, Menggamat, 10 January 1999.

³⁷According to Ostrom, 'the person who engages in corruption receives a disproportionate gain by using his or her power over the allocation of valued resources to extract an illegal payment from someone else.' (Ostrom 1992)

³⁸As I observed earlier, this occurred during the colonial period when, during the *damar* boom, control shifted from village heads to the Uleebalang. However, as Dutch reports reveal, the colonial State fulfilled this role in other areas subject to commercial timber exploitation (Kreemer 1923: 122–27).

³⁹In the course of these discussions, WWF-LP also began investigating pre-existing community rules for managing the forest that would later provide the foundation for a community conservation forest.

⁴⁰Interview with former WWF personnel, Tapaktuan, 12 January 1999. WWF-LP did not try to prohibit local people from logging. 'Our understanding was that if only people from Manggamat were doing this, it could be controlled by the *adat* heads or Mukim. But if outsiders did it, with people behind them like the Camat, Koramil or police, Adat leaders could not prevent it'.

⁴¹As Murphree has noted, at the heart of CBC is a paradox. CBC initiatives seek to obtain community support for conservation objectives and much of their legitimacy via-a-via other approaches derives from the claim that they are based on local initiatives. However, CBC strategies are usually initiated by outside agencies (such as WWF), who seek to co-opt community support for conservation objectives that are exogenously derived (Murphree 1994).

⁴²In the Amazon an 'extractive reserve' is an area of existing rainforest 'set aside for low-impact use by certain residents of the rainforest or its environs' (Peluso 1992b). The most famous extractive reserves are those of the rubber tappers. The Indonesian government had developed a regulatory framework to facilitate this development. In 1995 the Minister of Forestry had specified 'Guidelines for Community Forestry' in a ministerial decree (*Keputusan Menteri Kehutanan Nomor: 622/Kpts-II/95*). The guidelines allowed for 'community forestry activity' on designated 'critical forest lands' – including degraded protection and production forests 'where rehabilitation is necessary'. The guidelines excluded community forestry from active timber concession areas, national parks and other reserves.

⁴³Damar is a resin tapped from Dipterocarp trees, especially *Hopea* and *Shorea* species. Damars are used in the manufacture of paints, batik dyes, sealing wax,

printing inks, varnishes, linoleum and cosmetics. In areas such as Krui, in Lampung province, damar collecting is organised, and villagers tap the resin by cutting holes 10 to 15 cm wide, deep into the trunk. Harvesting can vary from once a month to once a week, depending on when the holes are filled with resin (Appanah 1994).

⁴⁴*Hutan adat* referred to the forest remaining on village lands.

⁴⁵The WWF-LP project finished at the conclusion of the project's funding with conflict with LMU and local government as well as other problems. Subsequently, until early 1999, several WWF-LP staff formed Yayasan Bina Alam to continue activities with limited funding from LMU.

⁴⁶Already by 1996 severe flooding was causing severe damage to housing and agriculture in Menggamat. Based on a 1996 survey, Elfian Effendi estimated that due, to uncontrolled logging, flooding had caused damage in just one village amounting to Rp 85 million (Effendi 1998).

⁴⁷The idea that promoting the marketing of non-timber forest products can save tropical rainforests by local communities has been heavily criticized (Dove 1993: 17).

⁴⁸I am grateful to David Edmunds for pointing this out.

⁴⁹Interview with Mn, Tapaktuan, January 1999.

⁵⁰Interview with *nilam* farmers, Manggamat, 6 February 1998.

⁵¹Like other commodities, patchouli oil prices fluctuate widely in the world market. For example, over a twelve-month period (1995–96), prices in Indonesia dropped by 40%.

⁵²On sloping land, the *nilam* needs rain, and farmers need to plant before the wet season.

⁵³According to a CIFOR paper on the economic crisis, towards the middle of 1998 demand began to pick up again (CIFOR 1998).

⁵⁴*Waspada* 1998 '50 persen kilang kayu di Aceh Barat dan Selatan Tutup', 6 Oct.

⁵⁵Interview with O, 5 January 1999.

⁵⁶Interview with Mn, Tapaktuan, January 1999.

⁵⁷Concerning YLI, see footnote 4.

⁵⁸For instance, according to *Waspada*, in 1998 the *Bupati* oversaw the creation of a fact-finding team to investigate the 'sins' of logging concessions operating in South Aceh. The team consisted of representatives of local agencies as well as critical NGOs such as *Rimuing Lamkalut*, an NGO specifically concerned with the logging problem (*Waspada* 'TPF Hentikan Pengoperasian PT MRT', 15 Oct 1998).

⁵⁹According to a report in *Waspada*, the district government revenues were 45% below target for the 1998/9 fiscal year. One reason, the article suggested, was that ‘the third party tax (*sumbangan pihak ketiga*) that is levied at the border [with North Sumatra] have all fallen as a result of the decrease in the armada of trucks that carry several commodities exported from the region, especially timber’. However the *Bupati* associated the revenue with central government regulations (*UU No. 18/1997, Inpres No. 9 dan 10 tahun 1998*) that prohibited the collection of export fees (*retribusi barang ekspor*). These included several taxes on wood exports such as the RHBB. (‘PAD Aceh Selatan gagal capai target, dispenda-dinas LLAJ saling tuding’, *Waspada* 23 March 1999.)

⁶⁰‘Dandim 0107/Aceh Selatan akui ada anggotanya terlibat pencurian kayu’, *Waspada* 6 June 1998.

⁶¹‘Pencurian kayu kembali marak di Aceh Selatan’, *Analisa* 25 Sept 1998.

⁶²‘Ekosistem Leuser Terganggu. Puluhan irigarsi mulai kurang air’, *Serambi*, 16 May 1998.

⁶³‘Bencana banjir tak terlepas dari dam KKN’, *Waspada*, 21/9/98; ‘Rapat Tim Koordinasi Leuser. Kaburnya tata batas dan saran peninjauan HPH’, *Serambi*, 25.5.98.

⁶⁴These groups included Walhi Aceh, Kesatuan Aksi Reformasi Daerah Aceh Selatan (KARDAS) and *Rimueng Lamkalut*. (*Waspada* 28 Sept 1998 ‘Desakan pegiat lingkungan hidup. Cabut izin HPH dan IPK’.)

⁶⁵‘Bila izin HPH tak Dicabut, Rimueng Lamkaluet akan Mengamuk’ *Serambi* 17/9/98. ‘Seluruh HPH Di Aceh Selatan diancam akan dibumihanguskan’, *Waspada* 26 Aug 1998.

⁶⁶*Waspada* 5 Oct 1998, ‘Sejumlah HPH/IPK mulai kosongkan camp’.

⁶⁷Interview with LMU staff, Medan, January 1999. Logging regulations prohibit logging operations on slopes above 40%, and for some years LMU had attempted to get HPH on very steep areas cancelled. However, these leases continued to have legal validity even though they were in the Leuser Ecosystem and enclosed very steep land unsuited for logging. The *Bupati* at this time had waged an unofficial campaign against these Medan-based concessionaires.

⁶⁸It was reported that there were now plans to turn the area into an oil palm plantation (International Campaign for Ecological Justice in Indonesia 1999: 13).

⁶⁹During the 1990s, ICDPs became Indonesia’s main approach to biodiversity conservation. In a review of ICDPs across the country, Wells *et al.* (1999) found that there were already more than 12 ICDPs at various stages of implementation. Foreign donors had pumped US\$130 million into ICDPs covering some 8.5 million hectares of the nation’s conservation estate. In addition, several ICDPs were also in preparation, projects that were expected to attract another US\$200 million in loans and grants (Wells *et al.* 1999: 2).

⁷⁰*Lingkaran setan* — which could also be translated as a ‘devil’s circle’ — is a common Indonesian expression for this phenomenon. The meaning of *lingkaran setan* can be explained as follows: *lingkaran itu tidak mempunyai ujung (berputar terus) sehingga sulit menentukan mana ujung (head) dan mana buntutnya (tail). Semuanya setan, tapi yang mana yang jadi boss nggak tahu.* ‘This circle [or wheel] does not have an end (it turns constantly) so that it is difficult to tell the head from the tail. They are all like devils, but it is unclear who is the boss’ (Tuti Hendrawati, personal communication, 4 Apr 2000).

⁷¹For other discussions of this issue, see Dauvergne 1997, Weak states and the environment in Indonesia and the Solomon Islands. Australian National University, Department of International Relations, Working Paper no 10; Gunarso, P. and Davie, J. 1999 How decentralization can improve accountability of forest resources management in Indonesia., School of Natural and Rural Systems Management, University of Queensland, unpublished paper.

⁷²As the changes occurred at the same time, these changes tended to be mutually reinforcing. Further research needs to be done to more fully indicate the relative importance of these variables in shifting the balance away from logging.

⁷³In 1997 Agenda 21-Indonesia recommended legal initiatives that facilitated the recognition of community property rights in the State forest zone. Subsequently, following vocal calls for reform after the resignation of Suharto, under the transitional government of President Habibie over 1998-9, policy-makers took these initiatives further. Since then, innovative projects have attempted to work with a range of new policy initiatives to gain recognition of local property rights, and there have been some experiments with co-management (Fay and de Foresta 1998).

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Glossary

APBD (*Anggaran Pembangunan dan Belanja Daerah*), district government budget

adat, customary law, custom, customary authority system

Bupati, district (*Kebupaten*) head, the chief official in the district

camat, subdistrict head, head of *kecamatan*

CCF, community conservation forest

cukong, an entrepreneur or financial backer, a businessmen who funds logging operations

damar, a resin tapped from Dipterocarp tree

desa, 'village', a collection of *dusun* (hamlets) joined together to form an administrative unit in accordance with Village Government Law (UUPD 1979)

ICDP, integrated conservation and development programme

IPK (*Ijin Pemanfaatan Kehutanan*), timber harvest permit

Gunung Leuser National Park (GLNP) or Taman Nasional Gunung Leuser (TNGL), national park founded in 1980

hutan, 'forest'. *Hutan negara* is 'state forest' while *hutan adat* is forest that local people hold under *adat* authority.

HPH (*Hak Pengusaha Hutan*), logging concession

kebun, mixed-crop permanent garden, permanent agroforest garden

kepala desa, village head

kecamatan, subdistrict

kepala mukim, head of village league or *mukim*

keucik, the village head (*kepala desa*)

KKN, *korupsi*, *kolusi dan nepotisme* or corruption, collusion and nepotism

Kluet, ethnic group found around Kluet river in South Aceh

krismon, or *krisis moniter*, the economic crisis that struck Indonesia in 1997

ladang, land area subject to temporary cultivation, swidden plot

LDP, Leuser Development Programme, European Union funded Integrated Conservation and Development Project

Leuser Ecosystem, area subject to LDP 'conservation concession', an area designed to contain the ranges of

the major elements of the biological diversity of northern Sumatra including the Sumatran tiger, the elephant, orang-utan and the Sumatran rhinoceros, and extending over approximately 2 million hectares

LMU, the Leuser Management Unit, European Union funded project organisation entrusted with the implementation of the Leuser Development Programme (LDP)

Minangkabau, ethnic group from West Sumatra. Migrants from this area moved to South Aceh where there are known as *Anak Jamee*.

mukim, a league of villages, known in South Aceh as a *kemukiman* under the leadership of a figure known as the *imam mukim* (in Menggamat, South Aceh, formerly known as the *uleebalang*)

nilam, patchouli (*Pogostemon cablin*)

oknum, literally 'a person acting in a certain capacity', a euphemism for a person abusing their position or otherwise acting contrary to their official responsibilities

PAD, *Pendapatan Asli Daerah*, self-generated district income, revenues generated directly by the district for use within the district

pemda (*pemerintah daerah*), local government

penebangan liar, literally 'wild logging', illegal logging

reformasi, the movement for political change in Indonesia that began in 1997

retribusi, tax or fee levied by government, usually in return for a service

SAKB (*Surat Angkutan Kayu Bulat*), a permit for transporting unprocessed logs

SAKO (*Surat Angkutan Kayu Olahan*) a permit for transporting sawn timber

sawah, wet rice cultivation

tauke, boss controlling logging operations, either independently or as agent of *cukong*

uang pembangunan, 'development fee', unofficial fee paid for access to the forest under *adat* authority

WWF-LP, World Wide Fund for Nature's Leuser Project

YLI, Yayasan Leuser International, Jakarta-based foundation formed by influential Acehenese to support Leuser Development Programme (LDP) and conserve Leuser Ecosystem

YPPAMAM, Yayasan Perwalian Pelestarian Alam Masyarakat Adat Menggamat, the Menggamat Community Representative Body for Conservation Forests