FOREST PROBLEMS AND LAW ENFORCEMENT IN SOUTHEAST ASIA:
THE ROLE OF LOCAL COMMUNITIES

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It seems rather odd for us to enforce the reserved forest law on the people in the forest which became reserved only subsequently by the mere drawing of lines on pieces of paper. The problem arises inasmuch as, with the delineation done, these people become violators of the law. From the viewpoint of law, it is a violation, because the law was duly enacted; but according to natural law, the violator of the law is the one who drew the lines.

H.M. Bhumibol Adulyadej, King of Thailand
Excerpted from a royal statement delivered on June 27, 1973

1. Introduction

In 1995, the World Resources Institute published a comparative study of national laws and policies affecting forests and forest-dwellers in India, Indonesia, Nepal, the Philippines, Sri Lanka, Thailand, and PNG (Lynch and Talbott, 1995). The study arrived at two main conclusions. First, the national system of forest ownership and management that prevails throughout South and Southeast Asia is not sustaining forest stocks. Second, legally securing the community-based tenurial rights of local populations can improve forest management, enhance local livelihoods, and potentially reduce the scope of illegal logging, timber theft, agricultural encroachment, trade in rare and endangered species, arson, and other forest problems.

This paper takes the 1995 study one step further by examining the role of local communities specifically in forest law enforcement. Law enforcement is essential to ensure that the benefits of forest exploitation are sustained and distributed fairly. But stronger law enforcement has often been practiced at the expense of the poor, who are easier targets for suppression than the rich and powerful. Care must therefore be taken before advocating for stronger law enforcement. This paper highlights the role of local communities in law enforcement because there is strong evidence that, in partnership with official agencies, they can prevent and detect forest problems more reliably, and at lower cost, than the state alone. Engaging local communities in law enforcement is thus both efficient and equitable. But building such partnerships implies fundamental changes in the way state authorities perceive and treat those who live in, and depend on, the forest. This means going beyond what is currently characterized as "community forestry," which often means no more than paying farmers to plant trees on degraded land, to a partnership that capitalizes on their respective strengths and capacities.

The paper is divided into seven parts. Section 2 explains why forest problems are acute in mainland southeast Asia. Section 3 explains why many of today's forest problems have their roots in the state acquisition of occupied forest land. Section 4 shows the perverse outcomes of government mismanagement and local-level defiance. Section 5 examines the scope of community-based law enforcement. Section 6 looks how innovative forest policies can community-based monitoring. Section 7 provides some conclusions and preliminary recommendations.

2. Forest Crimes

The need to explore new and better ways to detect and suppress forest crimes is clear. Between 1990-1995, mainland Southeast Asia suffered the world's highest rate of deforestation (1.6 percent), closely followed by insular Southeast Asia (1.3 percent) (FAO, 1999). Recent reports of forest fires (Barber et al., 1999) and timber plundering (Kartodihardjo, 1999) in Indonesia, and continued deforestation in Cambodia (Global Witness, 1999) and Burma (Brunner et al., 1998) indicate that the situation is far from stable. Forest crimes are acute in mainland Southeast Asia because high levels of poverty coexist with rapid economic growth, weak enforcement capacity, and porous borders. The extent of the problem is shown by two indicators: large differences in forest cover per capita, and large differences between declared and undeclared timber exports.
**Per capita forest cover**

Table 2 shows forest cover in 1990 and 1995, deforestation rates, and forest area per capita for the countries of mainland Southeast Asia. The region can be divided into two groups: those countries with relatively abundant forest cover per capita (Burma, Cambodia, Laos) and those that are forest-poor (China, Thailand, Vietnam). The latter exert a high and growing demand for timber and non-timber forest products from the former. This demand could surge if the ban on logging natural forest in China, announced in aftermath of massive flooding of the Yangtze, in the summer of 1998, is enforced, in which case China's annual timber imports are expected to rise from 5 to 40 million m$^3$, creating new pressures for illegal logging in the region.

**Illegal timber trade**

Table 3 shows imports and exports of logs and sawnwood within the region compiled by the International Timber Trade Organization (ITTO). ITTO cross-checks national figures with independent estimates to monitor both declared and undeclared trade. (The table is incomplete because Laos and Vietnam are not ITTO members and Cambodia only joined in 1995.) The table shows large differences between the amount of timber that Burma and Cambodia report as exports and that China and Thailand report as imports. In 1997, for example, Thailand reported 218,000 m$^3$ of logs imports from Cambodia, when Cambodia allegedly had no log exports; and China reported 206,000 m$^3$ of log imports from Burma, when Burma allegedly exported only 1,000 m$^3$. There can be some legitimate reasons for mismatched import and export figures, but when these discrepancies persist for several years in the same direction, they point to a systematic attempt by countries to conceal timber exports and the illegal income it generates.

### 3. Forest Laws

Many of today’s forest crimes have their roots in the acquisition of forests, first by the colonial powers and then by the post-colonial Asian elites. This acquisition has been accompanied by the legal expropriation of the sovereignty and property rights of the indigenous populations. States have exerted legal control of substantial portions of their territories by declaring vast areas, many of them inhabited, to be publicly-owned forests (even if many of them are highly degraded or barren). Indonesia claims as much as 70 percent of the nation’s land mass, for example, while the Philippine government considers itself the owner of more than half the archipelago’s land area. In Thailand, the Royal Forestry Department (RFD) has jurisdiction over 40 percent of the country. Private ownership of forest, whether individual or community-based, is minimal throughout the region. These laws provide cover for the state to grant outsiders commercial concessions to extract or convert forests in areas forest-dwellers already occupy and use.

#### Three myths

Underlying the legal claims of these states to ownership of classified forest areas is the tacit assumption that those who have been using the resource base, in many cases for hundreds of years, are not necessarily those who should be entrusted with its continued management. Three fundamental and persistent misrepresentations are often used to justify this assumption, even though they have been thoroughly disproved. One is that forest-dependent peoples are few in number (outdated and inaccurate official counts systematically underestimate the population of classified forest areas). Another is that forest-dependent peoples use public resource illegally. The third is that they area destroying the forests, especially with slash-and-burn farming. These myths have been deliberately perpetuated in order to justify continued exclusive state control of the forest, and when this is threatened, state-sponsored aggression toward forest-dwellers. They have also, on occasion, been implicitly supported by foreign conservation groups (Peluso, 1993) and in Thailand by domestic NGOs that accuse upland forest dwellers of causing dry season water shortages (Lynch, 1999).

#### Case of Indonesia

Indonesia represents an extreme example of how the law has been used to appropriate and exploit large areas of forest for the benefit of the few. Indonesia’s commercial logging boom was precipitated by the implementing regulations of the Basic Forestry Law, which was passed in 1967. In its wake, the traditional adat tenurial rights of millions of forest-dwellers in Indonesia’s Outer Islands were steadily subordinated to the profits of a relatively small number of commercial firms and state enterprises. By 1991, 580 logging and industrial plantation concessions, covering 60 million ha or 30 percent of the land area, had been granted. This hand-out was facilitated by overlapping and chaotic land use classification schemes that worked to the benefit of private
developers at the expense of the rights and livelihoods of forest-dwellers (Kartodihardjo and Supriono, 1999).

This concentration of land and profits was reinforced by forest policies that were socially and environmentally unsustainable. During the 1980s, Indonesia went from being a minor player in the world's plywood business to controlling over 70 percent of global tropical plywood exports (Kaimowitz, 1998). It achieved this by subsidizing plywood companies, banning log exports, and aggressively marketing its plywood (often selling for less that it cost to produce). Plywood exports grew rapidly, but the social and environmental costs were huge. First, the business Generated huge profits for a few groups with close ties to the Suharto regime. The government gave the Indonesian Plywood Association (Apkindo) monopoly powers to fix the amount of plywood each producer could export and set prices for what they sold. As a result of this monopoly, Indonesia's timber sector became more concentrated. By 1990, fifteen business groups controlled over half of the industry's plywood production capacity and about one-third of the forest area under concession (18 million ha). Second, the monopoly on plywood exports combined with a log export ban sharply reduced the domestic price of logs. The result was, predictably, a rapid expansion of plywood manufacturing capacity in response to an under-valued raw material, a surge in illegal logging to meet this demand, and the loss of over 1 million ha of forest a year between 1990-1995, the world's second highest rate of forest loss after Brazil (FAO, 1999).

The World Bank and other international agencies have long argued against these policies, but were strongly resisted by Indonesian Government officials and businesses. But in January 1998, following the collapse of rupiah, the Government was forced by the IMF to agree to sweeping, reforms. Among the most important reforms, the government agreed to reduce export taxes on logs to a maximum of 10 percent of the FOB price, eliminate Apkindo's monopoly over plywood exports. reduce land conversion targets to environmentally sustainable levels, create new resource rent taxes on timber, including an increase in stumpage fees, and implement an auction system to allocate new concessions.

4. Perverse Outcomes

Despite expansive claims of ownership, governments exercise relatively little control over many forest areas. Few can pay, train, or maintain the forest department staff needed to survey, patrol, and manage the vast areas classified as public forest land effectively. In Indonesia, for example, a single forest officer is often responsible for 20,000 ha of forest and is largely without transportation and other base professional tools. Simply put, government agencies in the region do not have, and most likely will never have, the capacity and political will to manage and protect remaining natural forest. But by perpetuating the myth of the all-powerful state, “communities lose the authority to restrict use of state forest land, while forest departments lack the organizational capacity to control access” (Poffenberger, 1990). Unable to secure an equitable share of the benefits from the forests in which they dwell, many forest-dependent communities have no choice but to assert control over their forests, either quietly or defiantly, by engaging in illegal logging, timber theft, and arson. The results have been doubly perverse. First, many acts of forest use that do relatively little environmental damage are branded as criminal. Second, many acts of forest exploitation that are highly destructive, in fact, legal.

Many "forest crimes" are benign

What the state considers a forest crime may be benign. For example, some countries have policies to stamp out shifting cultivation, despite evidence that under certain conditions this form of agriculture is environmentally sustainable (Rambo et al., 1998). Research in Laos and Vietnam shows that shifting cultivation is only responsible for one-third of current forest loss (GOL, 1998; Do Dinh Sam, 1994). To the extent that shifting cultivation causes unacceptable erosion and sedimentation problems downstream, it should be dealt with through the promotion of alternative farming technologies and off-farm income generating opportunities (World Bank, 1998).

Similarly, many protected areas include human settlements. Although their presence is technically illegal, these populations may have been resident for generations and depend on the extraction and marketing of forest resources for their survival. Experience with resettlement of such populations has often resulted in violent conflict and misery, and may simply displace the forest problem elsewhere. In recognition of the fact that “the goals of conserving biodiversity and protecting and securing indigenous cultures and livelihoods have sometimes been perceived a contradictory rather than mutually reinforcing,” WWF (1996) published a statement of principles on indigenous peoples and conservation, which “recognizes the rights of indigenous peoples to exert control over their lands, territories, and resources, and establish on them the management and governance systems that best suit their cultures and social needs, whilst respecting national sovereignty and conforming to national conservation and development objectives.”

Not all "forest crimes" are illegal
Many acts of gross forest mismanagement are, strictly speaking, legal. For example, much of the logging that takes place in Cambodia is poorly planned, wasteful, and generates little government revenue, but is nevertheless legal. Illegal logging has often received the tacit support of government. In the Philippines, logging practices have long been contested by indigenous forest dwellers who fear displacement and the loss of traditional sources of livelihood. Private individuals and government officials with links to logging have often responded to such opposition with intimidation, threats, and violence. In the 1980s, the government consistently failed to respond to reports of such abuses in any meaningful way, and offenders were seldom brought to justice, because many members of government were themselves heavily involved in logging. These acts, and the relative impunity with which they have been carried out, have heightened tensions and sparked further conflict (HRW, 1996).

The involvement of the military in logging makes this problem particularly intractable for two reasons.

First, because of the military's overwhelming coercive power, it can flout environmental regulations with impunity. Second, in some countries, the military's anti-insurgency and self-financing objectives converge, leading to both unsustainable logging and human rights violations. Allegations of collusion between the military and logging, interests were advanced in the context of offensives against the rebel NPA (HRW, 1996). Similar cases exist on the mainland. In Laos, the Government attempted to control logging, which had expanded rapidly to feed a Thai-financed boom in sawmill capacity, by imposing a series of provincial quotas. But central Government was unable to enforce these quotas, and above-quota logging and sawnwood exports continued. In October 1994, the Government revoked concessions throughout Laos, withdrew the right of sawmills to cut their own wood, and transferred logging rights to three military-run corporations (Walker, 1996). Today, illegal logging by the military accounts for production figures far in excess of the annual allowable cut of 275,000 m³. An analysis by ITTO shows sawnwood exports of 170,000 m³. Since three units of timber are needed to produce one unit of sawnwood, and Laos imports no logs, there is a 235,000 m³ gap between actual and authorized timber production. According to the Government, half of this gap was is accounted for by illegal logging, often in areas stated to be flooded by hydropower projects (GOL, 1998). Very few of these projects are financially viable. The real reason for such large-scale logging is not legitimate salvage, but the need for the military, which receives little Government support, to pay for itself.

The most egregious example of military-sanctioned logging for both strategic and financial purposes was the decision in December 1988 by Burma's State Law and Order Restoration Council (SLORC) to grant contracts to Thai logging companies along the Thai-Burmese border (a move triggered by the cessation of official development assistance and concessional lending following the events of September 1988). Within months, 42 five-year logging concessions were granted to 36 companies, many of them linked to Thai military interests rather than specialist forestry firms (Brunner et al., 1998). Worth $112 million a year, revenue from the concessions doubled the government's income from timber. Many of the logging, concessions were deliberately located in rebel-controlled territory. The most important strategic consideration was logging roads. The government had been unable to bring the full weight of its military superiority to bear against the ethnic armies because of lack of road access. But once the logging roads were bulldozed, the Burmese army was able to advance rapidly. There was a very close correlation between the granting of the concession and the timing of military offensives against the ethnic minorities.

**Preconditions for law enforcement**

Because only some forest problems should be treated as forest crimes, and only some forest crimes are amenable to law enforcement, care is needed before advocating for more law enforcement. If implemented unjustly or inappropriately, stricter law enforcement risks doing "good things to bad people, and bad things to good people," a common outcome in Southeast Asia. In general terms, the, appropriateness of law enforcement increases with the just character, clarity, and societal consensus of the law, the capacity and accountability of institutions vested with coercive power, the significance of the threat to the national interest, and the "point source" character of the problem. Conversely, the appropriateness of law enforcement decreases with the likelihood of human rights violations and adverse impacts on the welfare of vulnerable populations, the costs of the problem relative to the cost of law enforcement. the "non-point source" character of the problem, and the extent to which the problem is amenable to alternative solutions.

Alternative solutions that merit consideration include community-based law enforcement. and the use of market-based incentives to promote more sustainable use of forest resources. Because market-based incentives can help reduce the level of effort required to monitor compliance with a set of easily verifiable minimal environmental standards, these approaches are complementary. But they also assume hat forest policies are in place that do not reward bad behavior, an invalid assumption in many countries.
5. Community-based Law Enforcement

There have been some remarkable changes in recent years in Asia in formal policies and programs supporting greater engagement of rural people in the management of public forests. Nepal and the Philippines began exploring community forest management policies nearly 20 years ago. By the late 1980s India began implementing joint forest management. Now Indonesia, China, Cambodia, Thailand, and Vietnam are experimenting with policies that involve communities in public forest management. The emergence of community forest management is significant in reversing a century-old trend of forest land nationalization and growing government dominance (AFN, 1997).

In Orissa and West Bengal, forest protection committees have successfully led the regeneration of forests and replication of such institutions in other villages. The committees have set limits on forest use by locals, and have set up patrols to protect against outside encroachment. Replication has been rapid. A single village created a forest protection committee in northern Orissa in the early 1980s and, with the encouragement from sympathetic forest officers, met with other villages to share information. The number of forest protection committees in the region grew from 8 in 1987 to 79 in 1993 (Poffenberger, 1994).

Engaging local communities in law enforcement makes sense because communities are often better placed than law enforcement officers to detect illegal forest exploitation by outsiders. In the Philippines, local government officials and communities carry out joint patrols against illegal logging and timber theft. A precondition for effective community-based forest protection is the right kind of external support. In the Philippines, efforts are underway to strengthen the relatively weak bargaining position of forest-dependent communities to promote their rights and claims and better address conflicts over forest resources. The most promising efforts have involved innovative legal and policy research, lobbying of legislators and other government officials, on the ground initiatives by NGOs to disseminate information forest communities about their legal rights to natural resources, and most important, actions by local communities to defend and assert their rights. In West Bengal, the success of community-based law enforcement requires some degree of formal recognition of the community's role, and the willingness of the official law enforcement agencies to suppress violations once detected. Absent these preconditions, the costs (and risks) of monitoring to the community may exceed the benefits. A review of the role of communities in law enforcement showed that the lack of formal government recognition of their authority in the form of a letter, certificate or identification card had undermined their ability to confront illegal forest use by non-members. It was also reported that the failure of forest department officials to backup committee members during such confrontations had adversely affected morale and had been a source of resentment toward the department (Poffenberger and Singh, 1993).

A distinction needs to be made between detection and suppression. Communities are best at detecting forest crimes, but once detected, it is the state's responsibility to suppress the crime. Communities and the state therefore have different, but complementary capacities. Although the proposal to engage local communities in law enforcement may sound radical, it is consistent with a global trend toward sub-contracting certain monitoring (but not enforcement) tasks to the private sector. The best known example is the hiring of the Swiss company SGS in PNG and Cameroon. In Cameroon, SGS was invited by the Ministry of Finance to control log exports from Douala because of the very low level of tax recovery by the Ministry of Forestry. SGS earns $2 per m$^3$ of logs exported, but by increasing tax recovery, it pays for itself.

Role of the forest department

In many countries, local communities fear and resent the forest department as a paramilitary force that is quick to use repressive measures to restrict their access to the forest. In Indonesia, conflicts over forest resources have erupted in violence, and law enforcement activities by the State Forest Corporation (SPC) often cause such intense resentment that forest rangers and guards are afraid to enter forest villages (Seymour, 1991). Moving from a situation in which communities and the forest department see each other with mistrust and animosity, to one in which they treat each other as partners, implies a fundamental shift in attitudes, particularly on the side of the state.

Traditionally-trained forestry officials are likely to be comfortable with production objectives (i.e., what and how much is produced), somewhat less comfortable with equity objectives (i.e., who benefits) and very uncomfortable with attempts to reallocate rights and responsibilities for forest management (i.e., who decides). Reallocating rights and responsibilities is essential if communities are to be effectively engaged in law enforcement. But experience to date shows that communities have only been formally engaged in forest management when the remaining forest is highly degraded or has no commercial value, and civil society is strong enough to advocate for these changes. In the Philippines, for example, the government only started to take tentative steps toward recognizing and registering ancestral domain claims in 1993, once all the accessible forest had been logged and as it came under increasing pressure from the country's vocal NGO community. This implies that current trends, although promising, are neither broad-based nor reflect
fundamental changes in Government attitudes toward the forest and those who live in them. Although many governments have enacted legislation granting communities the right to manage and benefit from their forest, they are extremely reluctant to recognize these rights, because once recognized, they cannot easily be revoked, reduced, or revised. As a result, progress toward community-based forest management has been slow. In Burma, for example, community forestry was recognized by the 1995 Forest Law, but anecdotal evidence suggests that villages have great difficulty in acquiring usufruct rights from the forest department (Brunner et al., 1998). It appears that the notion that villagers have rights, guaranteed by law, to control and benefit from their forests is fundamentally not supported by the present regime.

In Vietnam, the reluctance of the state to relinquish control explains why, six years after the introduction of the household allocation scheme, state forestry enterprises continue to play the leading role in forest management, despite the fact that the system was introduced in response to the failure of these enterprises to sustain productive forests. Under the household responsibility system, forests can only be contracted to households if the enterprise relinquishes its claim on the land. And if forest is managed for production purposes only, households have to compensate the enterprise for the value of the forest and sell forest products to the enterprise. Moreover, the procedures to acquire forest land are time-consuming, complex, and costly. As a result, three-quarters of forest land allocated to the end of 1996 was retained by state forestry enterprises (Morrison and Dubois, 1998). Because communities do not have the legal and political leverage required to negotiate management strategies, they must take what they are offered. Consequently, forest protection programs tend to be little more than short-term renewable (and cancelable) contract-based reforestation initiatives. The lack of community buy-in and the heavy administrative burden are fundamental flaws in the government's latest program to reforest 5 million ha by 2010. Because the benefits will not necessarily accrue to the farmer, the proposal to pay them $115 for every ha reforested is unlikely to prove cost-effective.

Even in Thailand, which has a strong NGO community, progress has been slow. By mid-1997, Thailand was on the verge of passing progressive new legislation known as the Community Forestry Act. As a prelude and in response to pressures from Thai civil society, the government passed three cabinet resolutions in April 1997 that recognized the community-based property rights of forest occupants. In an effort to implement these resolutions and to gain final enactment of the Community Forestry Act, a new constitution was ratified in July 1997. But soon after the constitution came into affect, the government fell following the onset of the financial crisis. Looking for scapegoats, the new Government stepped up the prosecution of forest farmers, and in June 1998 the cabinet canceled the April 1997 resolutions and enacted a new one. This resolution reafirms the state's legal powers to identify and evaluate evidence of forest occupancy, and prohibits occupation of any critical watershed, even if occupation predates the land classification. All delineation of local communities legal claims has stopped (Lynch, 1998).

**Role of non-state, non-local actors**

Experience in India and the Philippines shows that community-based law enforcement depends partly on the extent to which non-state, non-local actors can bring pressure to bear on the government. In some countries, these actors play a growing role in detecting and publicizing forest crimes. Much of what we know today about the extent of forest mismanagement in Cambodia, for example, comes not from the government or U.N. agencies, but from Global Witness, a London-based environmental NGO. While the World Bank has taken the lead in working with the government to improve its forest policy and enforcement capacity, it was Global Witness who put the state of logging in Cambodia on the international agenda. Similarly, it was the NGO community in Indonesia who monitored and reported on the location and extent of the forest fires in the summer of 1997 (Barber et al., 1999). An important factor contributing to the success of these actors has been the availability of low cost information technology products (e.g., GPS receivers, compact video recorders, PC-based satellite image receivers, the Internet) that can be used to acquire and broadcast accurate information to a global audience. As the cost of hardware falls, even poorly funded government departments and NGOs can improve the quality and timeliness of their information.

**6. Role of Forest Policy**

Forest revenue and concession systems in the region tend to be complex, inefficient, and generate little government revenue (but large amounts of off-budget revenue in some countries). Forest taxes are very low, set administratively, and considerably below the real value of the resource (and well below what the industry was willing to pay). These systems are further characterized by very low tax collection rates, arbitrary allocation of concessions, inefficient wood processing, and enormous waste of forest resources. In the face of forest policies that either permit or encourage forest mismanagement, an emphasis on law enforcement is misplaced. Fundamental reform in the way that concessions are allocated, taxed, and managed is a precondition for effective law enforcement of any kind.
There is a growing body of evidence showing that a combination of market-based incentives, coupled with regulations that are easy to enforce, can improve forest management. Two strategies are of particular interest: the use of performance bonds in the commercial timber sector (whereby the logger posts a bond that is returned, with interest, if the logger respects an agreed-upon set of environmental standards), and certification in the rare and endangered species trade sector (whereby trading is only authorized if harvesting intensity does not exceed what is considered sustainable).

**Commercial logging**

Most logging in tropical forests is carried out under short-term licenses awarded to private logging companies. In the absence of regulation, loggers can be expected to ignore the negative environmental impacts of logging, as they derive little or no financial gain from mitigating them. In response, governments have imposed a variety of logging regulations. Despite these efforts, much evidence indicates that logging practices throughout the tropics are highly damaging and are undermining the ability of forests to sustain flows of timber and non-timber benefits.

Given the lack of empirical evidence of how logging companies respond to incentive-based measures, Boscolo and Vincent (1998) modeled the environmental and economic impacts of performance bonds, using growth, recruitment, and mortality data from a permanent sample plot in Malaysia. The results of the model show that because logging a parcel of virgin forest is so profitable, renewability provides a powerful incentive for the logger to obey the law, even when concessions are very short. This should reduce monitoring costs because even the threat of inspection encourages compliance. But this threat only works if the logger believes that the concession will be terminated in the case of non-compliance. In other words, the incentive power of renewability depends on government commitment to enforce the law. Again, the success of community-based law enforcement—indeed, any form of law enforcement—depends on the government's willingness to apply its coercive powers on a non-discretionary basis.

**Trade in rare and endangered species**

The use of incentives has also been proposed to control the booming international trade in rare and endangered plants and animals that threatens many commercially valuable species with extirpation or extinction (Donovan, 1998). This trade has increased sharply in mainland Southeast Asia because the penetration of the market economy into poor areas provides a huge incentive to harvest and sell forest products, because most of the region's remaining areas of intact forest are located in remote and inaccessible areas, which precludes conventional law enforcement, because of rapid economic growth, which has increased the effective demand for wild plants and animal products for medicinal and culinary purposes, particularly in China, and because whereas taxes paid on formal international trade go to Beijing, cross-border trade is regulated and taxed by the provinces.

Governments are aware of this trade, which not only threatens the country's natural resource base, but government revenue. Cambodia, China, and Vietnam are signatories to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) and all countries in the region have introduced laws to ban the exploitation and export of species perceived to be in jeopardy. But banning the trade in endangered wildlife may prove counter-productive, with the exception of a few very rare species. For example, in 1998 the government of Vietnam banned the export of bears, big cats, crocodiles, snakes, and other farmed animals that are impossible to distinguish from their wild counterparts. These animals have been bred for many years in Vietnam. The meat is sold for food, and the organs to make remedies for traditional medicine. The market for products such as crocodile leather, snake venom, and meat is huge and highly profitable. But since the ban was imposed, breeders can no longer afford to feed and take care of their stock (Vietnam Economic Times, 1999). One option is for the government to issue certificates permitting people to breed animals for export. Only certified animals could be legally exported. In forested areas, the same principle could apply with communities harvesting and selling plants and animals at levels that the community and state jointly deems sustainable. Only forest products from those communities that set and enforce agreed-upon harvesting levels would be certified and thus eligible to be traded internationally. But this option risks igniting a storm of protest from conservation groups who fear that legalizing the trade in wild animals would accelerate their destruction, not their conservation.

7. Conclusions

Since the colonial period, South and Southeast Asian countries have increasingly invested control of the region's forest in centralized resource management agencies. Legislation either ignored or barely recognized the customary rights of long-term occupants or indigenous communities. Today, accelerating deforestation
indicates that the centralized agencies are failing to manage forests in a sustainable manner.

There is substantial evidence that for generations forest-dependent people have sustainably managed forest resources through community-based systems. That so many of these systems continue to function, albeit often in altered form, testifies to their efficacy and resilience. Moreover, there is strong evidence from India and the Philippines that when the state engages local communities as partners in law enforcement, the results have been positive. Given the emphatic failure of the state to control deforestation, and the continued proliferation of forest crimes, engaging local communities simply makes good sense.

But effectively engaging local communities requires far-reaching changes in attitude within forest departments. Experience to date suggests the only when the forest has lost all its commercial value is the state prepared to relinquish complete over the forest. Thus, while the positive results from community-based law enforcement are encouraging, they beg the question: why not sooner? This question is critical in Burma, Laos, and Cambodia, which have retained most of their original natural forest, because it suggests that if the state fails to seriously engage local communities in forest management and protection, their forests risk following the same trajectory as occurred in China, Thailand, and Vietnam.

References


Kartodihardjo, Hariadi (1999) *Toward Environmental Adjustment; Structural Barrier of Forestry Development in Indonesia*, study commissioned by WRI, Washington, DC.


**Table 1. Forest Cover and Deforestation, 1990-1995**

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<th>Burma</th>
<th>Cambodia</th>
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<td>Forest cover 1990 (km²)</td>
<td>290,880</td>
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<td>131,770</td>
<td>132,770</td>
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<td>Forest cover 1995 (km²)</td>
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<td>1,333,230</td>
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<td>Deforestation 1990-1995</td>
<td>1.4</td>
<td>1.6</td>
<td>1.2</td>
<td>2.6</td>
<td>1.4</td>
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<td>Forest area per capita 1995 (ha)</td>
<td>0.6</td>
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<td>2.5</td>
<td>0.2</td>
<td>0.1</td>
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Source: FAO (1999)
### Table 2. Timber Imports and Exports ('000 m³)

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<td><strong>From Burma to Thailand</strong></td>
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<td><strong>Logs</strong></td>
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<td>Imports reported by Thailand</td>
<td>688</td>
<td>486</td>
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<td>Exports reported by Burma</td>
<td>828</td>
<td>121</td>
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<td>Difference</td>
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Source: ITTO Forecasting and Statistical Enquiry, http://www.itto.or.jp