



ESSAYS ON SCIENCE AND SOCIETY

The End for Indonesia's Lowland Forests?

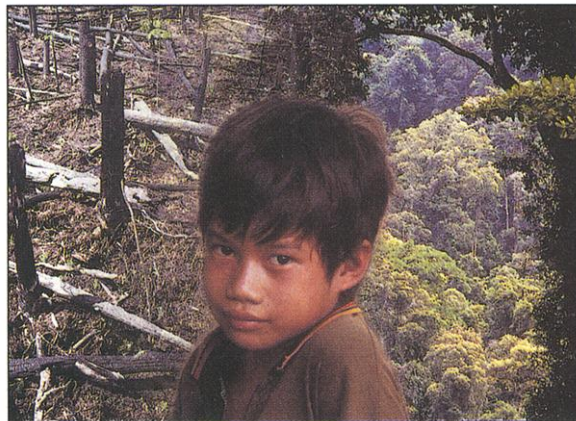
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Twenty years ago, Indonesia used the best principles of conservation biology to plan a national protected area system based on representativeness, irreplaceability, complementarity, and connectivity. Large areas of all habitats were proposed as conservation areas within each biogeographic region. Subsequently, all of the country's forests (more than 70% of the total land area) were allocated for production, watershed protection, or conservation, and Indonesia endorsed the principles of sustainable forest management. Unfortunately, these scientific principles were never fully reconciled with national policy and practice, even though Indonesia was one of the first signatories to the Convention on Biological Diversity. Today, Indonesia is a society in transition, torn apart by economic and political crises, and the gap between scientific best practice and the reality of current forest mismanagement could hardly be wider. If the current state of resource anarchy continues, the lowland forests of the Sunda Shelf, the richest forests on Earth, will be totally destroyed by 2005 on Sumatra and 2010 on Kalimantan.[†] Where did things go wrong?

Suharto's New Order Government (1966–1998) allocated use rights (forest con-

cessions) over timber-rich rainforest to powerful conglomerates and politico-business families. After Suharto's fall from power, the interim government of President Habibie (1998–99) passed two pieces of legislation on regional autonomy that were vague about the

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The World Bank's new report on the state of the environment in Indonesia illustrates stark choices for society between futures with and without forests.

extent of regional autonomy for resource planning and management.[‡] The responsibility for the management of all forests other than conservation areas (national parks and reserves) was devolved to the district level within provinces, although criteria and standards were still to be set by the central government. This neglected the fact that most districts have no capacity for detailed spatial and development planning for sustainable development, nor mechanisms to coordinate forest and watershed management with neighboring districts.

In December 2000, we visited protected areas and forest concessions in Sumatra and Kalimantan. We found a rapidly deteriorating situation compared to just 6 months previously. The one-million-hectare Kerinci-Seblat National Park in Sumatra is surrounded by logging concessions that cover biodiversity-rich lowland habitats excised from proposed park boundaries after 1982. A major

project, financed by a World Bank loan and a grant from the Global Environment Facility (GEF), aimed to establish integrated conservation management regimes for the greater Kerinci ecosystem. This is crucially important for the continued survival of Asian megafauna such as the Sumatran rhinoceros, the Sumatran tiger and the Asian elephant.

In the concessions we visited, illegal logging gangs were operating freely along logging roads. Large areas of forest had been newly cleared and burned to create new agricultural plots. Numerous piles of sawn timber indicated extensive portable saw mill operations within the forest. Within concessions, basic security measures were lacking, and road barriers were un-

manned. A skid trail used by the illegal gangs to drag out rough-sawn timber even crossed one concessionaire's yard. Entrepreneurs (known as "cukong") prefinance these gangs; loans are repaid with timber delivered to sawmill and warehouse gates. Concessionaires claimed that logging gangs would gang up to burn camps and logging trucks if a company attempted to interfere with their illegal activities.

The security of logging concessions is supposedly a joint responsibility of the concession company and the district forest department, yet neither make any attempt to stop illegal logging. Roads constructed by the forest concessionaires to provide access to new and undisturbed forests are appropriated by illegal logging networks. Key officials ("oknum") in local government act in collusion

with illegal loggers by turning a blind eye and/or providing permits for timber transport. Some government officials want to stop illegal logging practices; they face serious intimidation and even arson and murder.

In Gunung Leuser National Park, leaders of logging gangs ("tauke") have negotiated agreements with leaders of communities for title over forest lands that overlap official park boundaries.[§] Several of these gangs are backed by army and rebel groups working in collusion with foreign-backed interests. Malinau communities of East Kalimantan have signed away rights for up to 15,000 ha of land, some of which is already licensed by the central government to timber concession companies. The cukong protect themselves with quasi-legal documents that make villages liable for payments of up to US\$230,000 should they renege on the deal.

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SCIENCE'S COMPASS

Communities have two reasons to surrender their quasi-legal rights. First, immediate cash benefits far exceed anything acquired during past political eras. Second, they fear retribution from illegal logging networks. Participation in illegal logging is more lucrative in the short term than any benefits offered by concessionaires, conservation initiatives, or sustainable forestry projects supported by donor agencies.

Although contradicting state norms, illegal logging is becoming semi-legal and rapidly established as the de facto institutional arrangement governing Indonesia's forests. The state is unable, or unwilling, to address this illegal activity. In August 2000, after international publicity about illegal logging in Tanjung Puting National Park,¹¹ the Minister of Forestry wrote to the relevant provincial authorities asking for action against the main offender, a well-known member of Indonesia's People's Assembly. The request was ignored. In three case-study areas, Kerinci-Seblat and Gunung Leuser national parks (Sumatra) and Malinau district (Kalimantan), illegal operations appear to lead to one or two known principal backers, residing in regional centers.

District bureaucracies are generally unaware and uncaring of biodiversity issues and have limited capacity to govern. Local governing elites rarely consider the environmental costs of rampant forest exploitation or believe that environmental damage can be rectified with technical solutions, financed by increased district prosperity or grants from the central government and international donors. In essence, they are replicating the resource management model of the Suharto regime at the local level.

Indonesia's government and the international community face some hard choices if they wish to stem this biological catastrophe. To wait until the political climate settles would be disastrous for biodiversity and forest management. Given current trends, we estimate that Kerinci's lowland forests, some of the richest habitats on Earth, will be destroyed within 3 years. Illegal logging will vastly increase the risk and impacts of fire during the next El Niño event. A combination of forest degradation and land clearance were the root causes of the 1998–99 fire disaster that blanketed nearly 20 million people across Southeast Asia in smoke for months, with disastrous costs to local health and economies.¹² Allowing the indiscriminate logging to continue will result in long-term damage to watershed forests. In October 2000, districts around Kerinci National Park suffered major flooding

that led to deaths, destroyed roads and rice crops, and caused local food shortages.

An export ban on Indonesian timber will gain little national or local support and is probably unenforceable. Foreign pressure for such a ban carries the risk of a nationalist backlash that would exacerbate the situation further. It would kill the few Indonesian and international initiatives that have the potential to foster sustainable forest management.

In the short term, enforcement of national law is critical. A recent report by the Indone-



Illegal logging operations. (Top) A newly built logging road crosses the boundary into Kerinci national park. (Middle) Illegal timber being hauled out of Kerinci national park. (Bottom) Log piles build up in the log yards of the Duta Madju concession, known to have illegally transgressed the Kerinci N.P. boundary and extracted timber from the park. Now concessionaires are working furiously to remove timber from their concessions before the illegal gangs get to it first.

sian Directorate of Nature Conservation concluded that local police capacity was insufficient to address the scale and power of illegal logging networks and that military action may be necessary to protect national parks. Emergency action must be taken to enforce closure of illegal sawmills and stop illegal logging operations. Where concessionaires have lost control over their own concession areas, all operations should be suspended, especially the building of new logging roads that open up new areas of the forest frontier to exploitation. Priority actions should target the ecosystems of Leuser and Kerinci (Sumatra) and Tanjung Puting and Gunung Palung (Kalimantan), where vast losses of irreplaceable and globally important biodiversity are imminent. Such action would send a clear message to districts that decentralized government also means responsible government.

A concerted media campaign to promote public debate and mobilize civil society must be an integral part of any action to control illegal logging. Public, political, and donor attitudes must change to favor the following: prosecuting all those involved in illegal logging, including top officials; state-enforced protection of ecosystems that are critically important for conservation of national and global biodiversity; independent third-party monitoring of forestry practice and public exposure of wrongdoing; increasing awareness of the watershed and environmental values of forests; and capturing the long-term benefits that can accrue if forests are managed under an "ethical consumerism" umbrella.

For the long term, the most promising approach for sustainable forest management is to foster initiatives that encourage joint management between concessionaires, communities, and district government. Already, a growing minority of logging concessions are embracing international and local timber "green" certification mechanisms as an alternative forest governance mechanism that can secure local buy-in and better practice. A change from large-scale, company-based exploitation to lower-impact joint ventures will require a complete rethinking of forest profitability and beneficiaries.

The illegal logging in Indonesia has global relevance but no simple solution. The scientific community, the conservation movement, industry, and the Indonesian and donor governments must move from apparent complacency to vigorous action at local levels. This is a time to unite to combat this unprecedented forest loss, with its predictably dire consequences for local communities, livelihoods, and biodiversity. In the face of this global emergency, we must move from empty rhetoric and debate on biodiversity and climate change to positive action to protect Indonesia's forests.

¹¹D. Holmes, *Deforestation In Indonesia: A Review of the Situation in Sumatra, Kalimantan, and Sulawesi* (World Bank, Jakarta, 2000).

¹²*Down to Earth*, Newsletter No. 46, Special Issue on Regional Autonomy, available from www.gn.apc.org/dte [accessed 9 September 2000].

¹³J. F. McCarthy, "Wild logging": The rise and fall of logging networks and biodiversity conservation projects on Sumatra's rainforest frontier [Occasional Paper No. 31, Center for International Forestry Research (CIFOR), Bogor Barat, Indonesia], available at www.cifor.cgiar.org.

¹⁴EIA/Telapak, *The Final Cut. Illegal Logging in Indonesia's Orang Utan Parks and Illegal Logging in Tanjung Puting National Park—An Update on The Final Cut Report* (Environmental Investigation Agency, London, and Telapak Indonesia, Bogor, 1999 and 2000).

¹⁵C. V. Barber, J. Schweithelm, *Trial by Fire* (World Resources Institute, Washington, DC, 2000).