

Changing realities for tropical forest managers

The tropical timber industry needs effective self-policing to maintain markets

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Food vs. forest: Small scale cultivators in Gabon *Photo: W. Laurance*

If there is one constant these days, it is that nothing is constant. This is certainly so for tropical forest management. In recent years the underlying drivers of tropical deforestation have shifted profoundly, prompting conservationists to reassess their strategies for protecting forests. Those in the tropical timber industry need to think hard and fast about these new realities. If they fail to do so, they will increasingly be considered part of the forest-conservation problem, rather than part of the solution.

Tropical forests are disappearing fast—at a current pace of around 13 million hectares a year

The arguments below build upon a recently published essay (Butler and Laurance 2008). Aspects of the argument are inevitably simplistic because of generalizations across many nations and regions in the tropics, but the overall case is broadly valid.

Changing drivers of deforestation

Tropical forests are disappearing fast—at a current pace of around 13 million hectares a year, according to the FAO (2005). While this rate has remained roughly constant over the past few decades, the underlying causes of deforestation have shifted quite dramatically—from mostly subsistence-driven deforestation through the 1980s, to far more industrial-driven deforestation more recently (Geist and Lambin 2002; Rudel 2005).

Beginning around the end of World War II and continuing through the late 1980s, tropical deforestation was largely promoted by government policies for rural development. These included agricultural loans, tax incentives, and road construction, all spurred by rapid population growth in tropical nations (Rudel 2005). Such initiatives, especially evident in countries such as Brazil and Indonesia, promoted large influxes of colonists into frontier areas and often caused alarming forest loss.

The idea that rural farmers and shifting cultivators were responsible for most deforestation (Myers 1993) prompted conservation strategies, such as Integrated Conservation and Development Projects (ICDPs), that attempted to link nature preservation with sustainable rural development (McNeely 1988). Today, however, few consider ICDPs to have been successful. Critics point to weaknesses in their design and implementation and the fact that local peoples typically used ICDP funds to bolster their incomes, rather than replace the benefits they gain from exploiting nature (Brandon and Wells 1992; Ferraro 2001; Johannesen and Skonhøft 2005).

More recently, however, the impacts of rural peoples on tropical forests seem to be stabilizing. Although many tropical nations still have considerable population growth, strong urbanization trends (except in Sub-Saharan Africa) mean that rural populations are growing more slowly, and are even declining in some areas (U.N. 2004). The popularity of large-scale frontier-colonization programs has also waned (Fearnside 1997; Rudel 2005). If such trends (illustrated by the examples in the accompanying charts) continue, they could begin to alleviate some pressures on forests from small-scale farming, hunting, and fuel-wood gathering (Wright and Muller-Landau 2006).

At the same time, globalized financial markets and a worldwide commodity boom have (at least until recently) created a highly attractive environment for the private sector. Under these conditions, large-scale agriculture—crops, livestock, and tree plantations—by corporations and wealthy landowners is increasingly emerging as the biggest direct cause of tropical deforestation (Rudel 2005; Nepstad *et al.* 2006). Surging demand for grains and edible oils, driven by the global thirst for biofuels and rising standards of living in developing countries, is also spurring this trend (Von Braun 2007; Scharlemann and Laurance 2008). In Brazilian Amazonia, for instance, large-scale ranching has exploded in recent years, with the number

of cattle more than tripling (from 22 to 74 million head) since 1990 (Smeraldi and May 2008), while industrial soy farming has also grown dramatically (Fearnside 2001).

Other industrial activities, especially logging, mining, and petroleum development, are also playing a critical but indirect role in forest destruction (Laurance *et al.* 2001; Asner *et al.* 2005; Finer *et al.* 2008). These provide a key economic impetus for forest road-building, which in turn allows influxes of colonists, hunters, and miners into frontier areas, often leading to rapid forest disruption and cycles of land speculation (Walker 1987; Laurance 2001, 2004). Even staunch advocates of sustainable timber management concede that industrial logging in the tropics has catalyzed more forest destruction than forest conservation (Mason and Putz 2001).

Changing conservation strategies

While the recent surge in industrial-scale deforestation is alarming, it also signals potential new opportunities for forest conservation (Butler and Laurance 2008). Rather than attempting to influence hundreds of millions of forest colonists in the tropics—a daunting challenge—proponents of conservation are increasingly focusing their attention on a vastly smaller number of resource-exploiting corporations. Many of these are either multinational firms or domestic companies seeking access to international markets, which forces them to exhibit some sensitivity to the growing environmental concerns of global consumers and shareholders. When they err, such corporations are vulnerable to attacks on their public image.

Today, few corporations can safely ignore the environment. A growing cadre of conservation groups is targeting corporate transgressors, mobilizing support via consumer boycotts and public-awareness campaigns. For example, following an intense public crusade, Greenpeace recently pressured the largest soy crushers in Amazonia to implement a moratorium on soy processing, pending development of a tracking mechanism to ensure their crop is coming from environmentally responsible producers (Kaufman 2007). Earlier boycotts by the Rainforest Action Network (RAN) prompted several major U.S. retail chains, including Home Depot and Lowe's, to alter their buying policies to favor more-sustainable timber products (Gunther 2004). RAN also helped to convince some of the world's biggest financial firms, including Goldman Sachs, JP Morgan Chase, Citigroup Inc., and Bank of America Corp, to modify their lending and funding practices for forestry projects (Graydon 2006).

The impacts of such activities are far from trivial. Corporations perceived as 'environmental bad guys' can see their market shares fall rapidly. For example, Asian Pulp and Paper (APP), widely criticized for promoting forest destruction in Sumatra, has had its supply contracts cancelled by major retailers

such as Office Depot, Walmart, Staples, and Woolworths (Hance 2008a). By running afoul of environmental groups like Rainforest Alliance and World Wildlife Fund, APP could long be tainted as an undesirable business partner.

Many industries, motivated in part by fears of negative publicity, have established coalitions that claim to promote environmental sustainability among their members. Examples of such industry groups include *Aliança da Terra* for Amazonian cattle ranchers, the Roundtable on Sustainable Palm Oil in Southeast Asia, and the Forest Stewardship Council (FSC) for the global timber industry. Environmental groups are increasingly focusing on such trade groups. Rather than attempting to monitor hundreds of different corporations, conservationists feel they can have a big impact by striking just a few industrial pressure points. For example, Greenpeace recently revealed that food giants like Nestlé, Procter and Gamble, and Unilever were using palm oil grown on recently deforested lands, despite assurances to the contrary from the Roundtable on Sustainable Palm Oil (Anon. 2008). Likewise, the FSC has come under fire by environmentalists as well as the *Wall Street Journal* for a variety of perceived sins, such as initially sanctioning APP operations in Sumatra (Hance 2008b).

Corporations are also being swayed by carrots as well as sticks. Firms that buy into sustainability enjoy growing consumer preferences and may receive premium prices for their eco-friendly products. For instance, 'green' timber products accounted for \$7.4 billion in sales in the United States in 2005, and are expected to grow to \$38 billion there by 2010 (Yaussi 2006). Support for eco-certified wood products is even stronger in Europe. Unfortunately, many suppliers in the tropical timber and wood-products industries, including China, the world's largest exporter of wood products, still are largely missing out on this growing market niche.

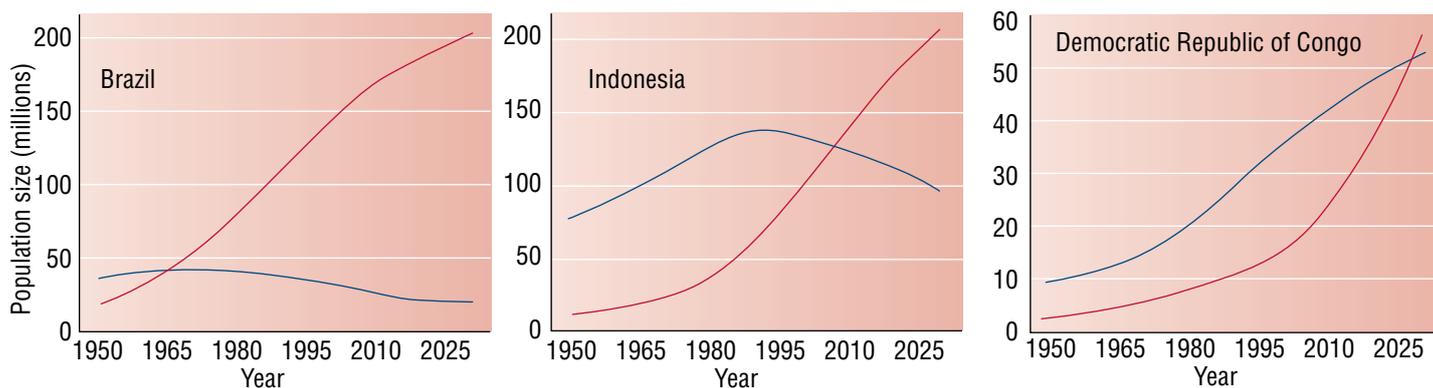
Lessons for the tropical timber industry

The tropical timber industry is vulnerable to boycotts and negative publicity, for at least three reasons. First, only a small fraction of tropical forest slated for timber production (~5%) is legitimately eco-certified. Second, as discussed above, logging is an indirect but nonetheless major driver of tropical deforestation (Laurance 2000, 2001; Asner *et al.* 2005). Third, corruption and illegal trade are still endemic in the industry (Smith *et al.* 2003; Laurance 2004), despite efforts by ITTO and other entities/initiatives, such as FLEGT, COMIFAC, PFBC, AFLEG, and FORCOMS, to improve forest governance (Jensen 2007; Mertens and Méthot 2008).

Conservation organizations are already promoting a full boycott of Indonesian timbers in the U.S, and are eyeing wider bans on other timber importers. The broad perception that much of the tropical timber imported

Big cities

Urban (red) and rural (blue) populations in major tropical nations



Source: U.N. 2004



Changing drivers: Logging road construction in Gabon *Photo: W. Laurance*

by Chinese wood manufacturers is illegal or unsustainable (Ekström and Goetzl 2007; Rubin 2007) increases the chances of a general boycott of Chinese wood products (Laurance 2008). The Chinese government recently released a draft forestry handbook to provide guidelines for its companies operating overseas, but the country's timber exports remain at high risk in sensitive markets.

Timber-producing countries are also raising their expectations for wood-importing corporations and countries. The tendency for China and other wood-manufacturing nations to import unprocessed logs (Kozak and Canby 2007), which provides little local employment in timber-exporting nations, makes them vulnerable to adverse reactions. For example, the key timber-producing nations in Central Africa—Cameroon, Central African Republic, Democratic Republic of Congo, Republic of Congo, and Gabon, collectively responsible for nearly 40% of all tropical timber exports—are reducing raw-log shipments and introducing legislation to require local manufacturing and value-adding for their timber products (Langbour and Gérard 2007).

The bottom line is that the tropical timber industry can expect an increasingly hard line from environmental groups and consumers, as part of a broader effort to combat the growing impacts on forests of industrialization and globalization. Although many in the tropical timber industry believe a 'use it or lose it' approach is the best way to promote natural forest maintenance (e.g. Armitage 1998; Pearce *et al.* 2002), the industry is one of the most conspicuous—and therefore vulnerable—exploiters of forests. Unless it moves aggressively toward effective self-policing, it will increasingly find itself the target of adverse actions and publicity. The smart tack under such circumstances is to take environmental sustainability very seriously. It is simply good business.

References

Anon. 2008. How the palm oil industry is cooking the climate (<http://www.greenpeace.org/raw/content/international/press/reports/palm-oil-cooking-the-climate.pdf>); posted 8 November.

Armitage, I. 1998. *Guidelines for the Management of Tropical Forests 1. The Production of Wood*. FAO Forestry Department, Rome.

Asner, G. P. *et al.* 2005. Selective logging in the Brazilian Amazon. *Science* 310: 480–482.

Brandon, K. E. and Wells, M. 1992. Planning for people and parks: design dilemmas. *World Development* 20: 557–570.

Butler, R. A. and Laurance, W. F. 2008. New strategies for conserving tropical forests. *Trends in Ecology and Evolution* 23: 469–472.

Ekström, H. and Goetzl, A. 2007. The US market for tropical wood products. *ITTO Tropical Forest Update* 17/2: 3–6.

FAO. 2005. *Global Forest Resources Assessment*. U.N. Food and Agricultural Organization, Rome.

Fearnside, P. M. 1997. Transmigration in Indonesia: lessons from its environmental and social impacts. *Environmental Management* 21: 553–570.

Fearnside, P. M. 2001. Soybean cultivation as a threat to the environment in Brazil. *Environmental Conservation* 28: 23–38.

Ferraro, P. J. 2001. Global habitat protection: limitations of development interventions and a role for conservation performance payments. *Conservation Biology* 15: 990–1000.

Finer, M. *et al.* 2008. Oil and gas projects in the western Amazon: threats to wilderness, biodiversity, and indigenous peoples. *PLoS ONE*, doi:10.1371/journal.pone.0002932

Geist, H. J. and Lambin, E. 2002. Proximate causes and underlying driving forces of tropical deforestation. *BioScience* 52: 143–150.

Graydon, N. 2006. Rainforest Action Network: the inspiring group bringing corporate America to its senses. *The Ecologist*, February/March (http://www.ran.org/media_center/news_article/?uid=1849).

Gunther, M. 2004. Boycotts on timber products. *Fortune Magazine*, 31 May (http://money.cnn.com/magazines/fortune/fortune_archive/2004/05/31/370717/index.htm).

Hance, J. L. 2008a. Woolworths drops contract with APP, activist groups remain wary (http://news.mongabay.com/2008/0810-hance_woolworths.html); posted 10 August.

Hance, J. L. 2008b. The FSC is the 'Enron of forestry' says rainforest activist (http://news.mongabay.com/2008/0417-hance_interview_counsell.html); posted 17 April.

Jensen, O. B. 2007. Forest certification in Indonesia. *ITTO Tropical Forest Update* 17/3: 10–12.

Johannesen, A. B. and Skonhofs, A. 2005. Tourism, poaching and wildlife conservation: what can integrated conservation and development projects accomplish? *Resource and Energy Economics* 27: 208–226.

Kaufman, M. 2007. New allies on the Amazon. *Washington Post*, 24 April (<http://www.washingtonpost.com/wp-dyn/content/article/2007/04/23/AR2007042301903.html>).

Kozak, R. and Canby, K. 2007. *Forest Trends*, Issue 9, October.

Langbour, P. and Gérard, J. 2007. Further processing in Central Africa. *ITTO Tropical Forest Update* 17/2: 7–10.

Laurance, W. F. 2000. Cut and run: the dramatic rise of transnational logging in the tropics. *Trends in Ecology and Evolution* 15: 433–434.

Laurance, W. F. 2001. Tropical logging and human invasions. *Conservation Biology* 15: 4–5.

Laurance, W. F. 2004. The perils of payoff: Corruption as a threat to global biodiversity. *Trends in Ecology and Evolution* 19: 399–401.

Laurance, W. F. 2008. The need to cut China's illegal timber imports. *Science* 319: 1184.

Laurance, W. F. *et al.* 2001. The future of the Brazilian Amazon. *Science* 291: 438–439.

Mason, D. J. and Putz, F. E. 2001. Reducing the impacts of tropical foresting on wildlife. In: Fimbel, R., Grajal, A. and Robinson, J. (editors), *The Cutting Edge: Conserving Wildlife in Managed Tropical Forests*. Columbia University Press, New York, USA.

McNeely, J. A. 1988. *Economics and Biological Diversity: Developing and Using Incentives to Conserve Biological Resources*. IUCN, Gland, Switzerland.

Mertens, B. and Méthot, P. 2008. Improving forest governance in the Republic of Congo. *ITTO Tropical Forest Update* 18/1: 10–11.

Myers, N. 1993. Tropical forests: the main deforestation fronts. *Environmental Conservation* 20: 9–16.

Nepstad, D. C. *et al.* 2006. Globalization of the Amazon soy and beef industries: opportunities for conservation. *Conservation Biology* 20: 1595–1604.

Pearce, D., Putz, F. E. and Vanclay, J. 2002. Sustainable forestry: panacea or pipedream? *Forest Ecology and Management* 172: 229–247.

Rubin, H. 2007. Market shift in China. *ITTO Tropical Forest Update* 17/2: 28.

Rudel, T. K. 2005. Changing agents of deforestation: from state-initiated to enterprise driven processes, 1970–2000. *Land Use Policy* 24: 35–41.

Scharlemann, J. and Laurance, W. F. 2008. How green are biofuels? *Science* 319: 52–53.

Smeraldi, R. and May, P. H. 2008. *The Cattle Realm: A New Phase in the Livestock Colonization of Brazilian Amazonia*. Amigos da Terra, Amazônia Brasileira, São Paulo, Brazil.

Smith, J. *et al.* 2003. Illegal logging, collusive corruption and fragmented governments in Kalimantan, Indonesia. *International Forestry Reviews* 5: 293–302.

U.N. 2004. *World Urbanization Prospects: The 2003 Revision*. U.N. Population Division, New York, USA.

Von Braun, J. 2007. *The World Food Situation: New Driving Forces and Required Actions*. International Food Policy Research Institute, Washington, D.C., USA.

Walker, R. T. 1987. Land use transition and deforestation in developing countries. *Geographic Analysis* 19: 18–30.

Wright, S. J. and Muller-Landau, H. C. 2006. The future of tropical forest species. *Biotropica* 38: 287–301.

Yaussi, S. 2006. Year of the green builder. *Big Builder Magazine*, 15 April (<http://bigbuilderonline.com/industry-news.asp?sectionID=367andarticleID=303214>).