

The Search For Good Wood

Sustaining the Yield from Tropical Forests



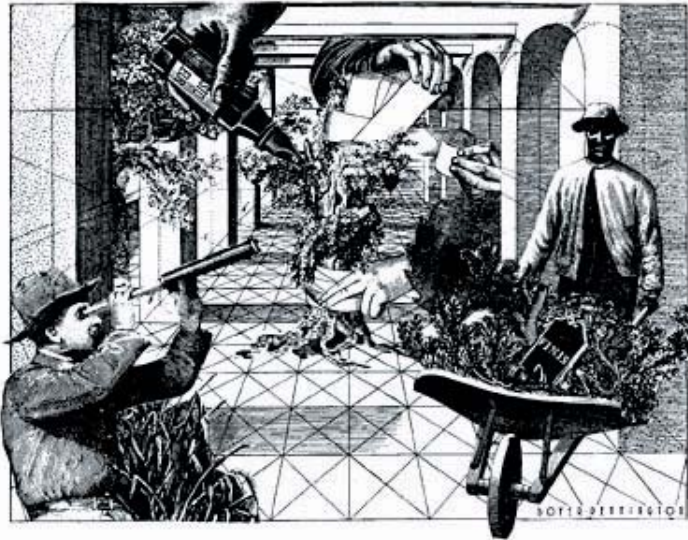
Anger is the one emotion the fate of the tropical forests¹ most often engenders: Indigenous forest dwellers are angry at the loss of their ancient way of life. Pioneers, given the chance to start a new life away from overcrowded cities, are angry that the forestland they cleared for agriculture has failed to produce. Politicians with tropical forests in their countries are angry that the forests are not producing enough hard currency to alleviate poverty, or that they are not being settled fast enough to ensure sovereignty. Foresters, mostly scientists, are angry that the chorus pressuring them to increase forest yields has been joined by an equally vehement group assailing their mismanagement of a critically important resource. Environmentalists are angry that too few governments and too few people are hearing the death knell of the tropical forests. While the anger flares, the tropical forests continue to disappear.

Located in a band around the Equator (mostly between the tropics of Cancer and Capricorn and primarily in Latin and South America, Africa, and Southeast Asia), tropical forests cover about seven percent of the earth's land surface. "A few thousand years ago the rainforest belt covered 5 billion acres—14 percent of the earth's land surface. Man has already destroyed half that. Most of the damage has been done in the last two hundred years, especially since the end of the Second World War. Now Latin America has 57 percent of the remaining rainforest. Southeast Asia and the Pacific islands have 25 percent. And West Africa has 18 percent. About 37 countries have significant areas of tropical rainforest, though three have more than half the total. Brazil, with one-third, has by far the biggest share. Zaire and Indonesia have one-tenth each."²

Today, "Tropical forests are being destroyed at the rate of 50 to 100 acres per minute, or 40 to 50 million acres per year—an area the size of Washington state."³ At that rate, experts predict that, except for small patches now in national reserves, the world's tropical forests will cease to exist by the middle of the 21st century.

A valuable resource

Humans have lived off tropical forests for thousands of years, mostly as hunter-gatherers who ate wild game and used what foresters today call "minor forest products"—fruits, nuts, vegetables, spices, and pharmaceuticals. Some also practiced "shifting agriculture," felling a patch of forest, allowing it to dry, and then burning it, thus



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releasing mineral nutrients to the soil through the ashes. Farmers grew one or two fast-maturing crops of staple food. Yields then fell and farmers abandoned the patch and moved on, thus allowing secondary forest to grow.⁴

During the colonial era, Europeans joined the indigenous forest dwellers in reaping the bounty of the forest, although their initial interest in tropical forests was as a source of spices to mask the flavor of preserved meat in the days before refrigeration. They also began transporting useful plants between tropical regions and to botanical gardens back home. The Industrial Revolution increased demand for all tropical forest products; however, demand for timber rose steadily until, by the decades after 1945, consuming and producing nations alike began to value tropical forests primarily for their timber.

“Minor” forest products still contribute to the economic well-being of producing nations, as in Indonesia where “the value of exported nontimber forest products had climbed to \$123 million by 1986.⁵ The volume of rattan traded annually has reached 150,000 tons, making it the single most important tropical forest product after timber. Other minor forest products await full development and wider application—they range from the trunk of *Copaifera langsdorfi* (pau oleo), a leguminous tree of the Amazon which produces a flammable oil at a rate of 20 liters per six months and is used locally in place of kerosene, to the seeds of the Australian rain forest legume, the Moreton Bay chestnut (*Castanospermum australe*), which has recently been discovered to contain a drug that might help combat AIDS.⁶

Beyond the crippling effect on developing nations and beyond the loss of potential new sources of energy, raw materials, edible protein, and pharmaceuticals, the destruction of tropical forests will have global implications, though scientists disagree to what extent. Studies have shown that tropical forest destruction does affect regional climates and that burning forests does release carbon dioxide and oxides of nitrogen into the atmosphere, thus contributing to global warming through the greenhouse effect.

Because tropical forests are so rich in plant, animal, and insect life, their loss would mean the outright extinction of many species, including many scientists have yet to discover. Patches of forest would probably not be enough to stop “genetic erosion”—a reduction within species of either the numbers of individuals or their

geographical range—which effectively halts evolution. Without tropical forests, this loss of biodiversity would extend to the top of the evolutionary chain; tropical forest dwellers, in retreat for centuries from the pressures of the outside world, would disappear, along with their distinct societies.

A threatened resource

Most of the nations with tropical forests within their boundaries are developing countries. All feel the pressures of huge debts and mounting interest, as well as pressure from their citizens for a better standard of living. “Not surprisingly, then, many people in tropical forest countries look forward to the day when commercial logging will contribute much more to the welfare of their citizens. Given the impoverished state of most citizens in these countries, it is difficult to contest this goal. Because of their compulsive desire to lift themselves out of poverty, many Third World countries are inclined to treat their forests as an oil well, to be drained with all due dispatch.”⁷

This view of tropical forests—as so much capital not earning interest—has led to indiscriminate commercial logging. Lumbering equipment brought in to extract the prime trees often has destroyed surrounding species as well. “For example, estimates show that during logging operations in the dipterocarp rainforests in Malaysia, 10 percent of the trees over 0.1 meter in diameter were harvested, 55 percent were severely damaged or destroyed during the operation, and 35 percent were undamaged.”⁸

When these countries were colonies, their colonial governments were often concerned with conserving the tropical forests, and some of the preserves they set aside—in Singapore and Ghana, for example—still exist today. As these countries gained independence, however, they steadily reduced staffing and funding in their forestry departments. The greed of foreign loggers, domestic landholders, and corrupt politicians proved too much for the foresters to control.

If this “monetization of resources”⁹ is the disease causing forest destruction, then its major symptoms have evolved beyond inefficient commercial logging. Today, the main reason people clear tropical forests is for agriculture. In some places, particularly Malaysia, Indonesia, and Papua New Guinea, tropical forests are cleared for tree plantations, which produce more exportable timber than natural forests and therefore earn more hard currency.



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Slash-and-burn farmers, penetrating deep into formerly inaccessible tropical forests via abandoned logging roads, cause significant damage. They “generally work upland soils that cannot maintain fertility with continuous cropping and that can support crops for only a few seasons before they must be left fallow.”¹⁰ This method of farming can be sustainable only if cleared plots are allowed to lie fallow long enough; misguided government policies often make this impossible, however.

Many governments push their poor, landless citizens to the tropical forests—either through official resettlement programs or by refusing to make urban life tolerable for them through real reform. “Common though it is for government officials, businessmen, and international aid agencies such as the United Nations and the World Bank to blame deforestation on masses of poor people searching for land, it is not the main cause of forest destruction in many areas. Land hunger is not even the prime motivation in many government-sponsored settlement schemes. Some of the largest settlement programs—in Indonesia and Brazil, for example—are largely intended to secure national sovereignty by establishing a civilian presence in frontier regions.”¹¹

Clearing land for cattle ranches has also become a significant problem, especially in Latin and South America. Government incentives to develop these regions, more than Americans’ appetite for beef, have made cattle ranching highly profitable. As these countries experience currency inflation, “improved” land increases in value sufficiently to make it profitable to create pastures even with no fiscal incentives or credit at all. Furthermore, pastures are used for under 10 years and then abandoned, because rising land values make it profitable to shorten their life by overgrazing.¹²

Ironically, as these countries have scrambled to liquidate their standing timber—viewed essentially as capital not earning interest—or promoted settlement for farming in order to relieve population and land inequity pressures, billions have been wasted. “In the Ivory Coast, where forest cover has decreased by 75 percent since 1960, cubic meters of commercial timber has simply been burned to clear the land for agriculture, incurring a loss of perhaps \$5 billion. . . . In Brazil, where little timber is extracted before forestland is cleared by burning, the resulting loss in commercial timber approximates \$2.5 billion annually.”¹³

As if commercial logging and conversion to agriculture weren’t enough, clearing the forests to get at valuable minerals, submerging forests in the wake of massive hydroelectric dams, and burning forests to produce industrial charcoal also devour tropical forests. Industrial charcoal production has virtually destroyed Brazil’s Atlantic Coast. Plans call for similar operations in the Amazon forests. In Thailand, producing charcoal is part of the process of clearing the land: Settlers live for the first few seasons off the money they get from producing and selling charcoal made from the trees they clear; then, they farm. And for over two billion people worldwide,¹⁴ wood from temperate and tropical forests provides fuel for heat and fire for cooking.

Given the rapaciousness of these destroyers of tropical forest, commercial logging for export is not a major villain on a global basis, although on a national or local basis, logging can be devastating. “International trade in tropical timber, valued at \$8 billion annually, accounts for between 10–15 percent of all woods logged from tropical forests.”¹⁵ Japan, the world’s largest importer of tropical timber by volume, uses much of it for disposable forms in the construction industry and as pulp for paper. The United States, Europe, and Japan each import about \$2.2 billion of tropical timber each year. The total value of those imports is about the same, though the volume differs. That’s because, for example, the United States imports more preprocessed tropical wood products—70 percent of all tropical hardwood plywoods and veneers that enter the world market—than Japan does.

A sustainable resource

The forces arrayed against tropical forests would seem to spell their doom. Environmentalists, increasingly vocal over the past 20 years, have struggled to reverse the trend. Their nongovernmental organizations represent a wide spectrum of solutions to the problem of tropical forest destruction.

Some of those organizations have advocated outright bans. While the concept of setting aside forests as preserves has gained credence, the political, economic, and social conditions of the countries with tropical forests within their borders have made bans unattractive. To ban timber imports from a particular producing nation would devastate its economy and force consuming nations simply to go elsewhere.



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Other groups have argued that consuming nations cannot legislate developing nations' use of their forest resources. Instead, they recommend funding for research to help producing nations better understand the nature of their timber resources and how to manage them. Still others—recognizing the need of producing nations for revenues, and consuming nations for timber—have pushed for managing the yield from tropical forests for long-term sustainability.

“Sustainable utilization systems can be devised and are viable so long as they mimic natural forest dynamics and work within the nutrient limitations of the ecosystem. The problems arise not so much in devising such management systems, but in making them work under the prevailing socioeconomic conditions.”¹⁶ Efforts to provide a framework within which these plans could work led the World Bank, the Food and Agriculture Organization of the United Nations, the UN Development Program, and the World Resources Institute to draft in 1985 the Tropical Forest Action Plan.¹⁷ It provides an international mechanism for cooperation among governments, development agencies, nongovernmental organizations, and interested groups in order to stop deforestation and develop plans to ensure sustained management tailored to each producing nation's situation. Seventy-three tropical forest countries, accounting for over 85 percent of all tropical forest, have expressed interest in the plan.

The lead that aid agencies have taken in the action plan is encouraging, since many of them have caused a great deal of tropical forest destruction through their funding of large development projects, such as dams and highways. It has been only recently that these agencies have begun to require environmental impact assessments before releasing funds for projects that will necessitate altering forests. But many charge that the environmental impact assessments are being ignored and that the action plan itself is actually promoting deforestation while failing to address its root causes (such as inequitable land distribution).¹⁸

Overall failure of the Tropical Forest Action Plan to live up to expectations should not overshadow successes in individual countries, however. In Cameroon, for example, the government is enforcing laws forbidding the felling of any tree below certain dimensions. Its forests have over 600 species, of which 300 are available for commercial logging but only 50 are actually logged. Of the 50, only 15 are exported. Every parcel and every tree are mapped in detail, and each log cut from every parcel must be registered with the government,

which then taxes the cut species to fund reforestation.¹⁹ This kind of approach enables importers to know for certain that the timber products they import come from sustainable sources.

The spotty performance of producing nations in managing their own tropical forests, however, has prompted others to organize. The International Tropical Timber Organization (ITTO) began in 1985 “to encourage the development of national policies aimed at sustainable utilization and conservation of tropical forests and their genetic resources, and at maintaining the ecological balance in the regions concerned.”²⁰ The ITTO has established guidelines for sustained-yield forest management that will be used throughout the world. Its goal is to guarantee that by 2000 all timber products used commercially will come from sustainably managed forests.

The International Hardwood Products Association (IHPA) carries a similar agenda. The IHPA and the Smithsonian Institution have established a foundation to focus on educating producing and consuming nations in the principles of sustained management. Both the ITTO and the IHPA are examples of initiatives taken in nations that import timber products. In addition, individual corporations within developed countries have taken steps to act responsibly and promote sustained management.²¹

Recently, legislators in the United States have also taken up the issue. Representatives and senators from around the country introduced 23 bills and resolutions in the 101st Congress. Two received significant support—the Global Warming Prevention Act (HR 1078) and the National Energy Policy Act of 1989 (S 324). Both bills would provide funds for evaluating world forest reserves and for helping nations develop and implement forestry programs while reducing imports of wood and products containing wood from unmanaged forests.

The Sierra Club has focused on labeling. It supports legislation Sen. Albert Gore of Tennessee and Rep. Peter Kostmayer of Pennsylvania, both Democrats, plan to introduce called the Tropical Forest Consumer Information and Protection Act of 1991. It would require that all tropical woods and all products made from tropical woods—including furniture—be labeled with both the species of the wood and the country from which it was extracted. While it would provide consumers with the information they need to choose the countries they wish to patronize, it would not provide for the education needed to help them make an informed choice.



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Labeling may be irrelevant if a consortium of government and nongovernment organizations and private businesses succeeds in formulating criteria for certification. Environmentalists, scientists, bureaucrats, and businesspeople are attempting to define sustainable management and to establish guidelines importers can use to make sure the timber products they import actually do come from sustainably managed forests.

Over 30 years ago, Charles Eames coined the phrase good goods to describe special objects recognized as well designed and exquisitely crafted. Good had aesthetic and utilitarian connotations. The harsh reality of the near extinction of many treasured materials—from the ivory of the African elephant to the teak wood of Burma—has infused the word with political, economic, and social connotations. Good must now have as much to do with how tropical wood was harvested, for example, as it does with its color and grain pattern. With active concern on everyone's part, resources like the tropical forests can be sustained forever. Without it, they will disappear.

Notes

- 1 "While many people assume that all tropical forests are rain forests, scientists distinguish several different types of tropical forests. These include seasonally wet forests, dry forests, mangroves, and those that receive rain year-round. All of these are imperiled." Symington, Sharon, *Tropical Rain Forests: A Vanishing Treasure* (Sierra Club, San Francisco, 1990), p. 1.
- 2 Caufield, Catherine, *In the Rainforest* (Knopf, New York, 1985), p. 37.
- 3 Symington, p. 1.
- 4 Whitmore, T.C., *An Introduction to Tropical Rain Forests* (Clarendon Press, Oxford, 1990), p. 133.
- 5 Repetto, Robert, "Deforestation in the Tropics," *Scientific American*, 262:4 (April 1990), p. 38.
- 6 Whitmore, pp. 162–3.
- 7 Myers, Norman, *The Primary Source: Tropical Forests and Our Future* (Norton & Company, New York, 1985), p. 99.
- 8 United States Interagency Task Force on Tropical Forests, "The World's Tropical Forests: A Policy, Strategy and Program for the United States," Department of State Publication No. 9117 (Washington, D.C.: United States Government Printing Office, 1980), p. 18.
- 9 Gomez-Pompa, Arturo, "Some Ideas for an Interdisciplinary Programme on World Forests," *Socio-economic Effects and Constraints in Tropical Forest Management* (Wiley & Sons, Chichester, 1982), p. 12.
- 10 United States Interagency Task Force on Tropical Forests, p. 17.
- 11 Caufield, p. 40.
- 12 Hecht, S.B., et al, "The Economics of Cattle Ranching in Eastern Amazonia," *Interciencia*, 13 (1988), pp. 233–40.
- 13 Repetto, p. 37.
- 14 Food and Agriculture Organization of the United Nations, "Map of the Fuelwood Situation in the Developing Countries," (Food and Agriculture Organization, Rome, 1981).
- 15 Sierra Club, "Rainforest Protection Campaign" (Sierra Club, San Francisco, 1990).
- 16 Smithsonian Institution and the International Hardwood Products Association, *Tropical Forestry Workshop: Consensus Statement on Commercial Forestry Sustained Yield Management and Tropical Forests* (Smithsonian Institution, Washington, D.C., 1990), p. 4.
- 17 Food and Agriculture Organization of the United Nations, *The Tropical Forestry Action Plan* (Food and Agriculture Organization, Rome, 1988).
- 18 Colchester, M., and L. Lohmann, *Tropical Forestry Action Plan: What Progress?* (World Rainforest Movement, Malaysia, 1990), p. 2.
- 19 Market America, "Saving the Rain Forests: The Cameroon Plan" (Market America, Chicago, 1989), pp. 8, 10.
- 20 Poore, Duncan, *No Timber Without Trees* (International Tropical Timber Organization, London, 1989), p. xvi.
- 21 Herman Miller, Inc., uses no tropical woods in its standard product lines which cannot be obtained from sustained-yield forest sources.