

Forest products

FORESTS ARE A PRINCIPAL global economic as well as ecological resource. This creates major challenges for the world as it tries to find ways of using them sustainably – to benefit their inhabitants and the wider community while maintaining their many ecological functions.

Forests have arguably played a bigger role in the development of human societies than any other resource, bar water and cultivable land¹. The prime direct or marketable product of most forests today is wood for use as timber, fuelwood, pulp and paper, providing some 3.4 billion cubic meters of timber-equivalent a year globally. After a 60 percent increase between 1960 and 1990, global wood consumption fluctuated but rose no further during the 1990s, largely due to the more efficient use of timber and paper recycling.

There is no sharp divide in total wood consumption between poor and rich nations, largely because poor nations have a large demand for wood as fuel. The world's leading per-capita consumers of timber (all using more than three times the global average) include nations at all levels of economic development: Liberia and Zambia; Malaysia and Costa Rica; Sweden and the United States of America. By continent, Africa is the second largest per-capita consumer of wood, after North America².

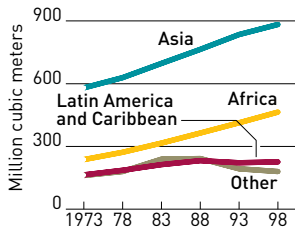
But the way wood is used varies dramatically with levels of economic development. Worldwide, half of consumption is for fuel, but in developing countries this figure rises to 80 percent. For almost 3 billion people, wood is the main energy source for heating and cooking. While the collection of wood for fuel is generally a less important cause of deforestation than forest clearance for farming, it is a prime cause of the loss of African tropical forests, particularly in the hinterland of cities, which still rely on wood for their energy requirements. Many countries, particularly in Asia, face a growing domestic shortage of wood for this basic purpose, notably Bangladesh, Nepal and Pakistan³.

Among industrialized nations, the predominant use of wood is as "industrial roundwood", a category that encompasses building material, paper and packaging. Each citizen of the United States uses 15 times as much wood for this purpose as an average citizen of a developing country. Over half the timber harvested for industrial use goes to North America, Europe and Japan, a figure that rises to 70 percent for paper. Global paper use has grown sixfold since 1950, using a fifth of all the wood harvested⁴.

With the exception of China and Brazil – two very large wood-producing nations – most industrial roundwood production takes place in the developed world. Industrialized nations both produce and consume more than twice as much industrial roundwood as developing countries⁵.

The focus of industrial roundwood production is moving towards harvesting from plantations. Between 1980 and 1995, the extent of plantations doubled to 180 million hectares, an area the size of Mexico⁶. They offer the potential for high yields of fast-growing species on small areas of land, offsetting the cost of planting, and offering a viable source of timber where accessible natural forests

WORLD FUELWOOD
Regional production

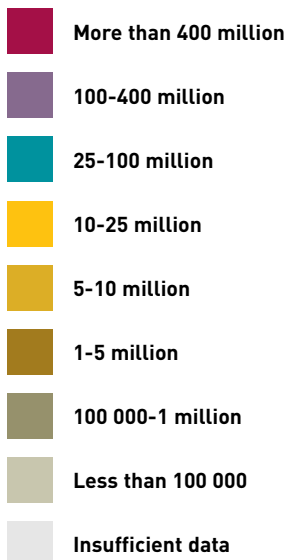


Top producers, 1998

	Cubic meters
India	274 334 000
China	190 947 000
Indonesia	157 023 008
Brazil	114 052 000
Nigeria	89 096 000
USA	70 160 000
Ethiopia	47 665 000
Congo, Dem. Rep.	45 910 000
Russia	39 910 000
Philippines	39 046 000

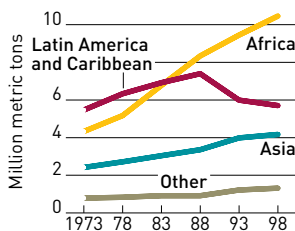
Source: FAO.

WORLD TIMBER PRODUCTION, 1998
Cubic meters



While developing and developed countries produce similar amounts of raw timber, wealthier industrialized countries use a much higher proportion for manufacturing purposes, for example paper and furniture production. Developing countries use much of their timber as fuelwood.

WORLD CHARCOAL
Regional production

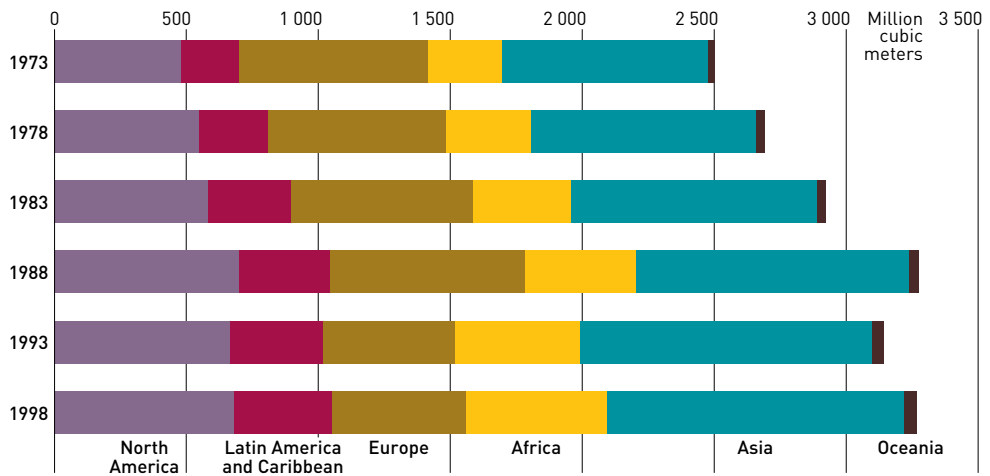


Top producers, 1998

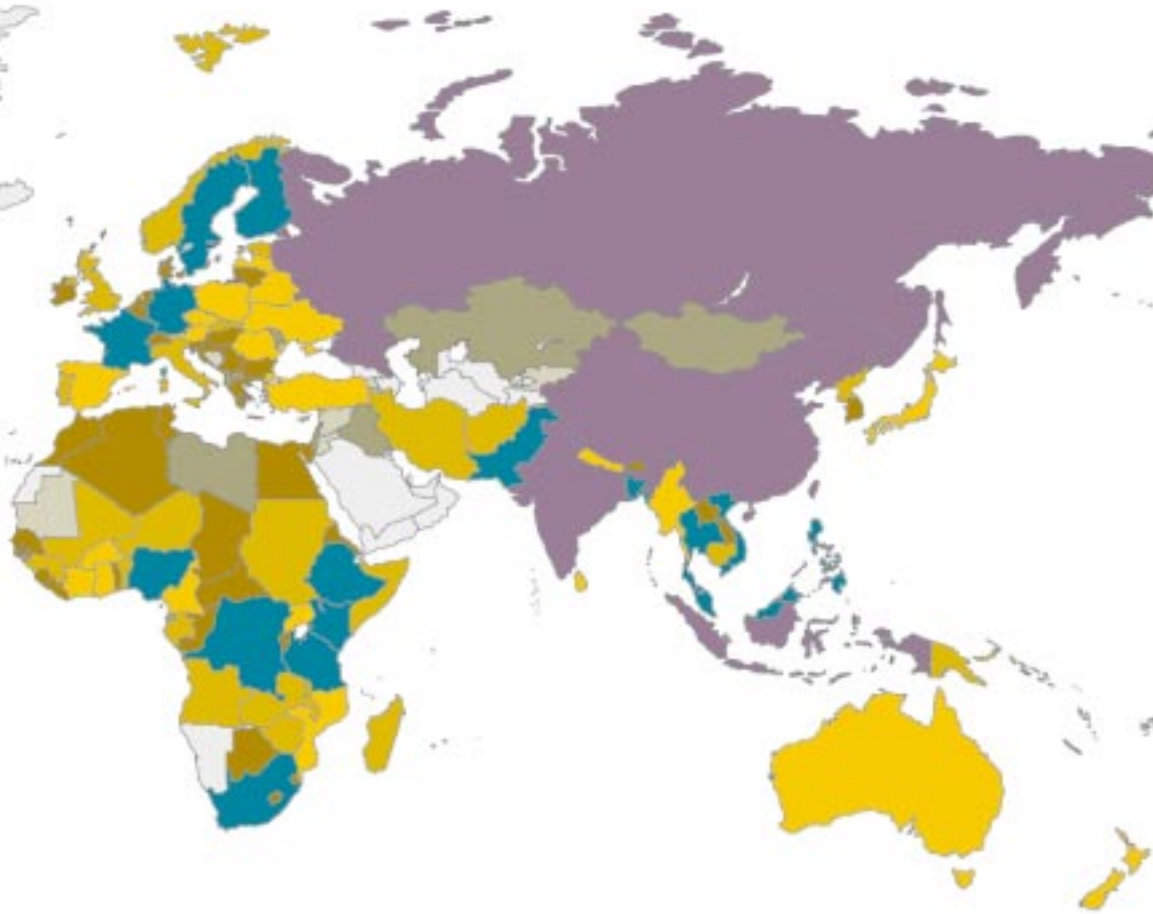
	Metric tons
Brazil	3 600 000
India	2 259 000
Kenya	2 233 000
Nigeria	1 468 000
Sudan	1 159 000
Zambia	1 041 000
USA	853 000
Ghana	752 000
Thailand	669 000
Colombia	661 000

Source: FAO.

WORLD TIMBER PRODUCTION



Source: FAO.



Source: FAO.

TOP PLYWOOD PRODUCERS, 1998

	Cubic meters
USA	15 732 000
Indonesia	7 015 000
China	4 978 000
Malaysia	3 904 000
Japan	3 267 000
Canada	1 750 000
Brazil	1 500 000
Russia	1 094 000
Finland	992 000
Korea, Rep.	641 000

88% of plywood is produced in these countries

Source: FAO.

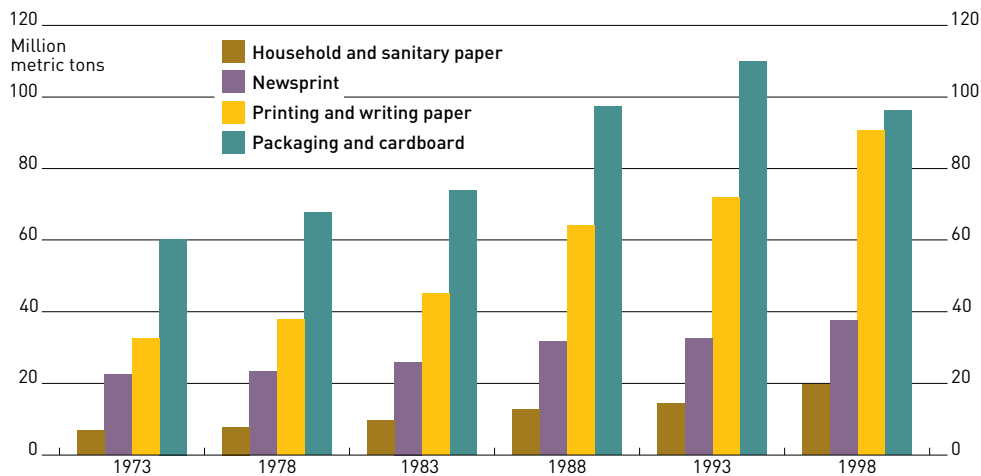
TOP PAPER AND PAPERBOARD PRODUCERS, 1998

	Metric tons
USA	75 812 000
China	32 333 000
Japan	29 886 000
Canada	21 207 000
Germany	16 311 000
Finland	12 703 000
Sweden	9 879 000
France	9 143 000
Italy	8 246 000
Korea, Rep.	7 749 000

76% of paper and paperboard is produced in these countries

Source: FAO.

WORLD PAPER AND PAPERBOARD PRODUCTION



Source: FAO.

TOP PAPER AND PAPERBOARD CONSUMERS*, 1998

	Metric tons
USA	80 175 300
China	39 358 600
Japan	30 126 000
Germany	16 856 000
UK	11 785 900
France	10 613 000
Canada	9 678 300
Italy	9 584 000
Brazil	6 598 600
Spain	6 189 000

75% of paper and paperboard produced worldwide is consumed in these countries

* Production plus imports minus exports

Source: FAO.

TOP PRODUCERS OF SELECTED FOREST PRODUCTS, 1998

Natural rubber

	Metric tons
Thailand	2 162 411
Indonesia	1 564 324
Malaysia	885 700
India	550 000
China	440 000
Vietnam	225 700
Côte d'Ivoire	115 668
Sri Lanka	95 710
Nigeria	90 000
Philippines	64 000

95% of world production

Coconuts

	Metric tons
Indonesia	13 000 000
India	11 100 000
Philippines	10 905 300
Sri Lanka	1 850 000
Thailand	1 372 000
Mexico	1 302 500
Vietnam	1 271 380
Papua New Guinea	734 000
Malaysia	711 000
Brazil	652 213

91% of world production

Coir

	Metric tons
India	450 000
Sri Lanka	130 000
Malaysia	32 200
Bangladesh	11 420
Thailand	8 000

100% of world production

Brazil nuts

	Metric tons
Bolivia	30 000
Brazil	23 000
Côte d'Ivoire	5 200
Peru	431
Ghana	5

100% of world production

Source: FAO.

are in increasingly short supply⁷. Previously a feature largely of industrialized countries, plantations are now being cultivated in developing countries, with most of them planning to double their plantations by 2010⁸.

Plantations take some of the stress off natural forests, but only for as long as natural forests are not logged to make way for them. There is increasing evidence that they do not confer the same ecological benefits. For example, they do not provide the same protection against soil erosion and flooding⁹ and they are more vulnerable to fires. They are normally monocultures with a seriously impoverished biological diversity, and offer virtually none of the non-timber forest products of the kind that sustain many local economies and cultures.

Non-timber forest products include fruits and nuts, rattan, medicinal plants and bushmeat. Many people living in or near tropical rainforests rely for half or more of their protein on wild animals caught in the forest. The subsistence meat harvest in the Brazilian Amazon is put at up to 160 000 tons a year, or up to 20 million animals. A study in the rainforests of southern Cameroon found more than 500 plant species and 280 animal species in use and often on sale in local markets¹⁰.

Because many non-timber forest products are used within the forests or traded informally, their value to national and community economies is frequently underestimated by governments when considering the economic potential of natural forests relative to other land uses. One exception was the formation of "extractive reserves" in the Brazilian Amazon in the late 1980s, dedicated to Brazil nut harvesting, rubber tapping and other non-destructive uses of the forest.

But just as timber can be overharvested, so can these non-timber resources, especially when local products gain access to large urban markets. The African bushmeat industry, which has become an international business, may exceed a million tons a year. Such levels of exploitation are unsustainable and can damage the forest ecology, since the same animals often disperse seeds¹¹.

In an effort to promote more sustainable management of natural forests, environmental groups and foresters around the world have banded together to certify and label for customers timber and other products that come from well-managed forests. The largest of these consortiums is the Forest Stewardship Council, which by 1999 had issued certificates approving over 15 million hectares of forest worldwide. Many major retail groups in Europe and North America have pledged to purchase timber products only from such supplies.

Governments are also increasingly attempting to realize value from their forests by charging access fees to ecotourists, hunters, or scientists seeking plant-based pharmaceuticals.