



Global Forest Resources Assessment 2005

15 KEY FINDINGS



FAO leads a global effort to improve knowledge on the world's forests and forestry

FAO has been coordinating global forest resources assessments every five to ten years since 1946. The Global Forest Resources Assessment 2005 (FRA 2005) is the most comprehensive assessment to date. More than 800 people have been involved, including 172 officially nominated national correspondents, their colleagues, an Advisory Group, international experts, FAO staff, consultants and volunteers from around the world.





Information collected and analysed from 229 countries and territories

FAO worked closely with countries and specialists in the design and implementation of FRA 2005 – through regular contact, expert consultations, training for national correspondents and ten regional and subregional workshops. The outcome is better data, a more transparent reporting process and enhanced national capacity in data analysis and reporting: a truly global win-win partnership resulting in improved knowledge on the world's forests and forestry.



A broad range of variables – from timber to soil protection, biological diversity to recreational use

FRA 2005 is the most comprehensive assessment of forests and forestry to date – not only in terms of the number of countries and people involved, but also in terms of scope. It examines the current status and recent trends for about 40 variables covering the extent, condition, uses and values of forests and other wooded land, with the aim of assessing all benefits from forest resources. Key findings are presented according to six themes defining sustainable forest management:

- Extent of forest resources
- Forest health
- Biological diversity
- Productive functions of forest resources
- Protective functions of forest resources
- Socio-economic functions of forest resources



FRA 2005 assessed all types of forests – from boreal and temperate forests to arid zone woodlands and tropical rain forests, and from undisturbed primary forests to forests managed and used for a variety of purposes, including plantation forests.

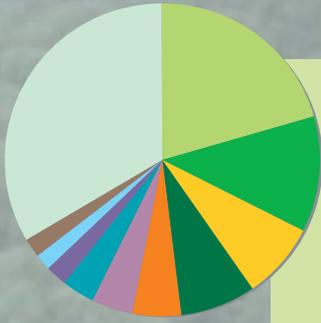




KEY FINDINGS

Forests cover 30% of the total land area

The total forest area in 2005 is just under 4 billion hectares, corresponding to an average of 0.62 ha per capita. But the area of forest is unevenly distributed. For example, 64 countries with a combined population of 2 billion have less than 0.1 ha of forest per capita. The ten most forest-rich countries account for two-thirds of the total forest area. Seven countries or territories have no forest at all, and an additional 57 have forest on less than 10 percent of their total land area.



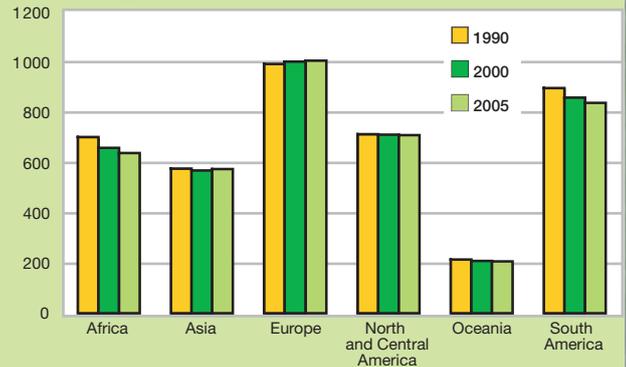
Ten countries with the largest forest area, 2005 (million ha)

Russian Federation	809
Brazil	478
Canada	310
United States	303
China	197
Australia	164
Democratic Republic of the Congo	134
Indonesia	88
Peru	69
India	68
Others	1333

Total forest area continues to decrease – but the rate of net loss is slowing

Deforestation, mainly conversion of forests to agricultural land, continues at an alarmingly high rate – about 13 million hectares per year. At the same time, forest planting, landscape restoration and natural expansion of forests have significantly reduced the net loss of forest area. The net change in forest area in the period 2000–2005 is estimated at –7.3 million hectares per year (an area about the size of Sierra Leone or Panama), down from –8.9 million hectares per year in the period 1990–2000.

Trends in forest area by region, 1990–2005 (million ha)



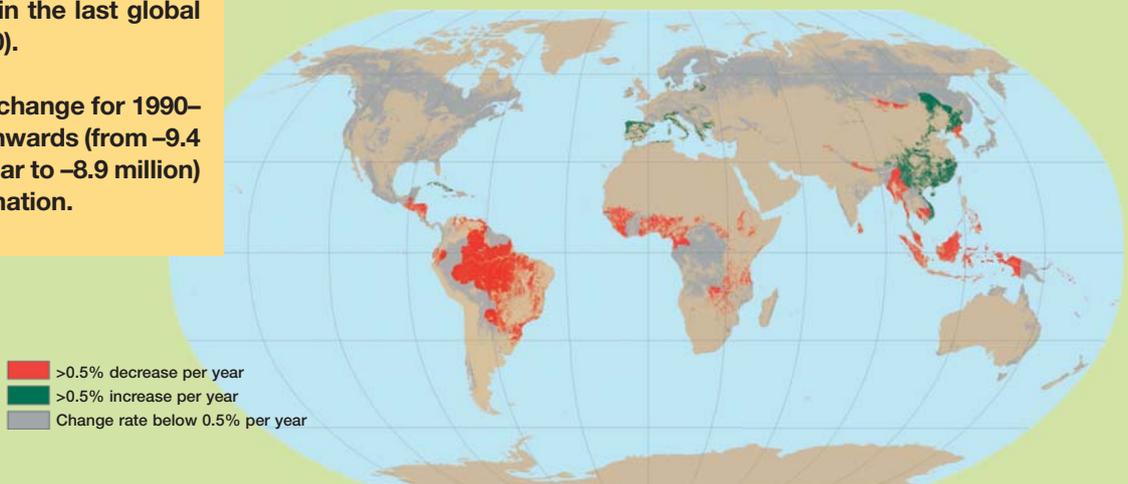
Previous figures slightly underestimated total forest area and overestimated net annual loss

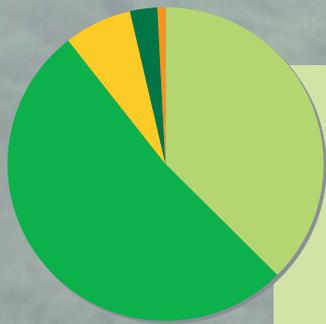
For FRA 2005, countries were asked to provide information on their forests for three points in time: 1990, 2000 and 2005. Total forest area figures for 1990 and 2000, revised to take into account new and better information provided to FRA 2005, are about 3 percent higher than those estimated in the last global assessment (FRA 2000).

Similarly, the net area change for 1990–2000 was revised downwards (from –9.4 million hectares per year to –8.9 million) because of new information.

Africa and South America continued to have the largest net loss of forests. Oceania and North and Central America also had a net loss of forests. The forest area in Europe continued to expand, although at a slower rate. Asia, which had a net loss in the 1990s, reported a net gain of forests in the period 2000–2005, primarily due to large-scale afforestation reported by China.

Countries with high net change in forest area, 2000–2005





Characteristics of the world's forests, 2005 (%)

Primary forests	36.4
Modified natural forests	52.7
Semi-natural forests	7.1
Productive forest plantations	3.0
Protective forest plantations	0.8

Primary forests account for 36% of forest area – but 6 million hectares are lost or modified each year

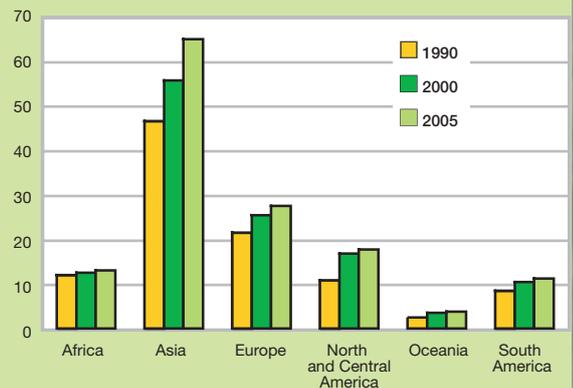
On a global average, more than one-third of all forests are primary forests (defined as forests of native species where there are no clearly visible indications of human activities and where the ecological processes are not significantly disturbed). The rapid decrease of primary forest area reported for the 1990s continued in 2000–2005. This decrease stems not only from deforestation, but also from modification of forests due to selective logging and other human interventions.

A number of countries registered positive change rates in the area of primary forests, including several European countries and Japan. This is possible because forests with no human interventions can evolve over time to meet the definition of primary forests used in FRA 2005.

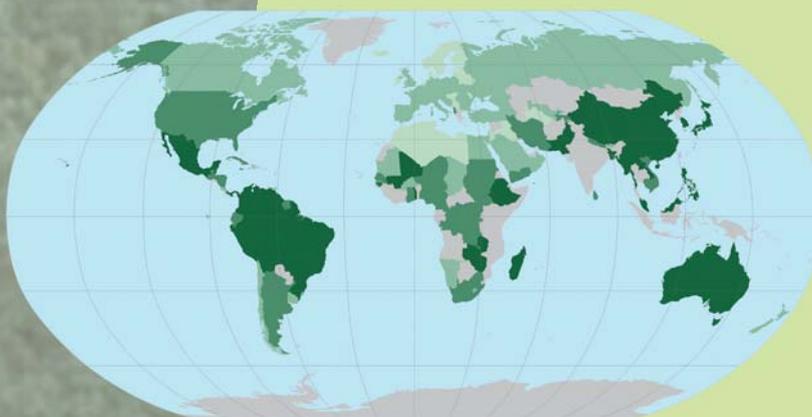
Plantation forests are increasing but still account for less than 5% of total forest area

Forests and trees are being planted for many purposes and at increasing rates. Plantation forests – a subset of planted forests defined as those consisting primarily of introduced species – make up an estimated 3.8 percent of the total forest area, or 140 million hectares. Productive plantations, primarily established for wood and fibre production, account for 78 percent of the plantation forests, and protective plantations, primarily established for conservation of soil and water, for 22 percent. The area of plantation forests has increased by about 2.8 million hectares per year during 2000–2005, 87 percent of which are productive plantations.

Changes in plantation area, 1990–2005 (million ha)



Number of native forest tree species



<50
50–200
200–1 000
>1 000
No data

Wide variation in number of native tree species: from 3 in Iceland to 7 780 in Brazil

Despite the large number of native tree species in many countries, relatively few tree species account for most of the standing wood volume. In most regions and subregions, the ten most common tree species (by volume) account for more than 50 percent of the total wood volume. Exceptions are West and Central Africa, South and Southeast Asia and Central America, where the tree species diversity is particularly high.

Rare tree species and those highly valued for wood or non-wood forest products (NWFPs) are often in danger of becoming extinct within parts of their range. On average, 5 percent of the tree species native to a country are either vulnerable, endangered or critically endangered.

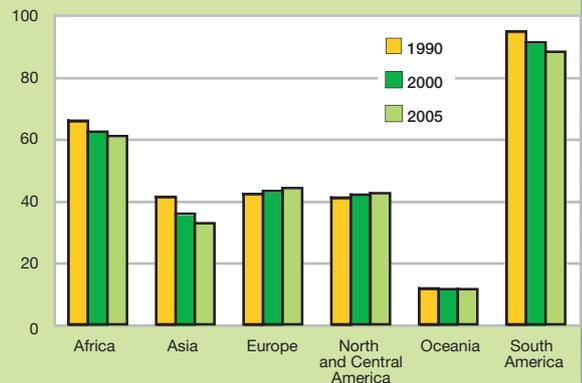


Forests – a vital carbon sink

Whereas deforestation, degradation and poor forest management reduce carbon storage in forests, sustainable management, planting, and rehabilitation of forests can increase carbon sequestration. It is estimated that the world's forests store 283 Gigatonnes (Gt) of carbon in their biomass alone, and that the carbon stored in forest biomass, deadwood, litter and soil together is roughly 50 percent more than the amount of carbon in the atmosphere.

Carbon in forest biomass decreased in Africa, Asia and South America in the period 1990–2005, but increased in all other regions. For the world as a whole, carbon stocks in forest biomass decreased by 1.1 Gt of carbon annually, owing to continued deforestation and forest degradation partly offset by forest expansion (including planting) and an increase in growing stock per hectare in some regions.

Changes in carbon stocks in forest biomass, 1990–2005 (Gt)



Forest disturbances can be devastating – but they were severely underreported

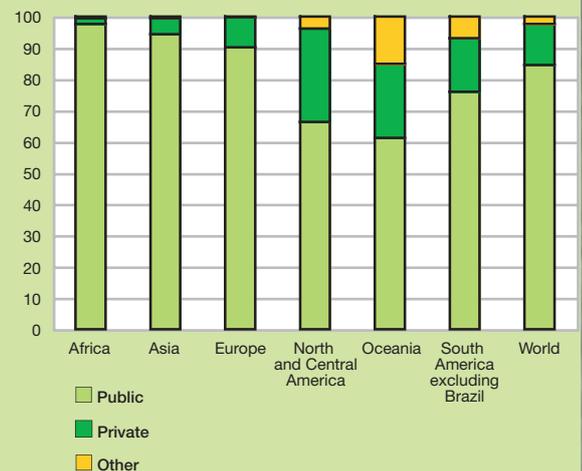


On average 104 million hectares of forests were reported to be significantly affected each year by forest fire, pests (including insects and diseases) or climatic events such as drought, wind, snow, ice and floods. However, the area of forest affected by disturbances was severely underreported, with information missing from many countries, especially for forest fires in Africa.

84% of the world's forests are publicly owned, but private ownership is on the rise

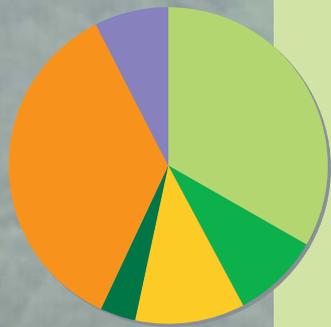
Trends towards community empowerment, decentralized decision-making and increased involvement of the private sector in forest management seen over the past 20 years are reflected in changes in forest ownership and tenure in some regions. However, most of the world's forests remain under public ownership. Differences among regions are considerable. North and Central America, Europe (other than the Russian Federation), South America and Oceania have a higher proportion of private ownership than other regions.

Ownership patterns, 2000 (%)





Forests are managed for a multitude of uses and values



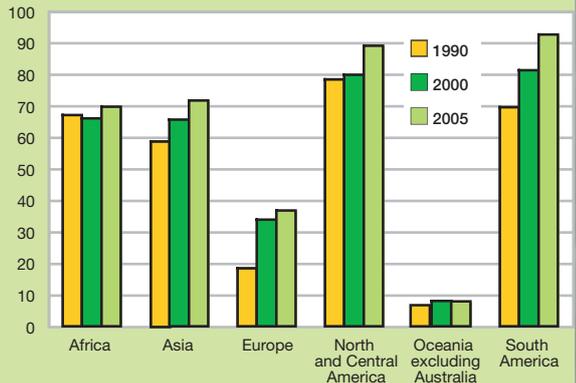
Designated functions of forests, globally, 2005 (%)

Production	34.1
Protection of soil and water	9.3
Conservation of biodiversity	11.2
Social services	3.7
Multiple purpose	33.8
No or unknown function	7.8

11% of the world's forests are designated for the conservation of biological diversity

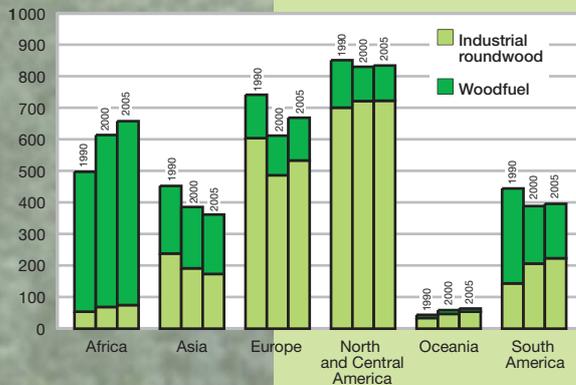
For FRA 2005, countries reported on the area of forest where conservation was designated as the primary function. This area has increased by an estimated 96 million hectares since 1990 and now accounts for 11 percent of the total forest area. These forests are mainly, but not exclusively, located inside protected areas. Conservation of biological diversity was reported as one of the management objectives for more than 25 percent of the total forest area.

Forests designated for conservation, 1990–2005 (million ha)



One-third of the world's forests are primarily used for production of wood and non-wood products

Trends in wood removal, 1990–2005 (million m³)



Wood production continues to be an important function of many forests, and reported removals of non-wood forest products are on the rise. Production of wood and non-wood forest products is the primary function for 34 percent of the world's forests. More than half of all forests are used for production of wood and non-wood forest products in combination with other functions such as soil and water protection, biodiversity conservation and recreation.

Global wood removals were forecast to amount to 3.1 billion cubic metres in 2005, similar to the total removals recorded for 1990 and averaging 0.69 percent of the total growing stock. While Asia reported a decrease in wood removals in recent years, Africa reported a steady increase. It is estimated that nearly half of the removed wood was woodfuels. Informally or illegally removed wood, especially woodfuel, is not usually recorded, so the actual amount of wood removals is undoubtedly higher.



More than 300 million hectares of forests are designated for soil and water conservation

Protective functions of forests range from soil and water conservation and avalanche control to sand-dune stabilization, desertification control and coastal protection. As reported to FRA 2005, an estimated 348 million hectares of forests have a protective function as their primary objective. Eighteen countries reported that all their forests are designated for protective purposes, as either a primary or secondary function. The overall proportion of forest designated for protective functions has increased, from 8 percent in 1990 to 9 percent in 2005.





Use of forests for recreation and education is increasing, but difficult to quantify

The only region with fairly good data on the use of forests for recreation, tourism, education and/or conservation of cultural and spiritual sites is Europe, where provision of such social services was reported as the primary management objective for 2.4 percent of the total forest area. In all, 72 percent of the forest area of Europe (not including the Russian Federation) provides social services.

The value of wood removals is decreasing, while the value of NWFPs is increasing – and underestimated

Roundwood removals in 2005 were forecast to value around US\$64 billion, mainly accounted for by industrial roundwood. The reported trend shows an increase of about 11 percent over the previous 15 years, which is less than the rate of inflation over this period. Thus, the reported value of removals in real terms has fallen at the global level.



The forecasted value of NWFP removals amounted to about US\$4.7 billion in 2005. However, information was missing from many countries, and the reported statistics probably cover only a small fraction of the true total value of NWFP removals. Edible plant products and bushmeat are the most significant products in terms of value. The trends at the global and regional levels generally show a slight increase since 1990.

Around 10 million people are employed in forest management and conservation

Reported employment in forestry (excluding the wood processing industry) declined by about 10 percent from 1990 to 2000. Most of the decline has occurred in the primary production of goods, and this can probably be attributed to increases in labour productivity. At the regional level, Asia and Europe showed a downward trend, while in the other regions employment increased somewhat – probably because roundwood production was increasing faster than increases in labour productivity. In Europe, the decline in employment can also be attributed to the restructuring of formerly centrally planned economies.

FRA 2005 only collected data on formal employment. However, some country reports did not separate informal and formal employment, so formal employment could be somewhat less than 10 million people. Taking into account the informal sector, the overall importance of forest employment for rural livelihoods and national economies is clearly higher than this number suggests.

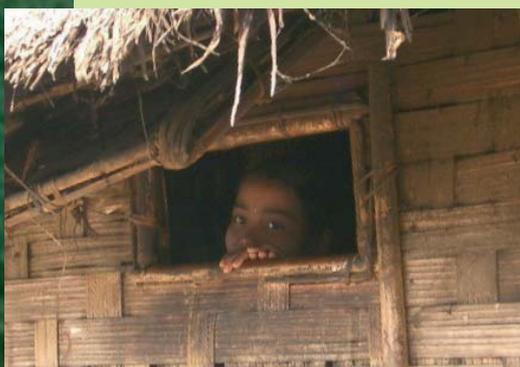




FRA 2005 – contributing to sustainable development

Sustainably managed forests have multiple environmental and socio-economic functions important at the global, national and local scales, and play a vital part in sustainable development. FRA 2005 provides new information on forest area change, one of the 48 indicators of the Millennium Development Goals. By also providing data on carbon, biological diversity, forests' contribution to national economies and many more variables, this comprehensive assessment will support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO works actively with countries to identify and address information gaps for continuous improvement of knowledge about forests and forestry. Joint planning for the next global assessment (FRA 2010) will commence in 2006 – based on an in-depth evaluation of FRA 2005.



To read more

FRA 2005 documentation includes a full report with more detailed analysis (available January 2006 in the FAO Forestry Paper series) and seven thematic studies providing additional information on planted forests, mangroves, bamboo, forest fires, forest insect pests, ownership of forests and trees, and forests and water (available later in 2006). A set of 20 global tables and individual reports from each of the 229 countries and territories included in FRA 2005 are available online at www.fao.org/forestry/fra2005. Copies of the country reports can be obtained from the FRA Secretariat.

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