

What's happening to rainforests

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1. Why are trees chopped down?

In the past the trees were chopped down to provide land to grow food crops and graze cattle and other animals for personal or local consumption, known as subsistence farming. But today the trees and the land are increasingly used to supply products that are wanted on world markets. Products such as:

- soy
- palm oil
- beef
- timber
- biofuels
- gold, copper and bauxite

Farming, mining and timber companies are able to provide livelihoods for local and indigenous people that help them raise their standards of living.

2. How much of the rainforest is being lost?

In the past 50 years, a third of the world's rainforests have been chopped down and burned.

At the current rate of clearance, tropical rainforests may be gone by 2050.

Tropical deforestation amounts to 13 million hectares lost every year. It's the equivalent of about 8.5 million football pitches a year, or 23,483 pitches a day.

Maps of deforestation in Borneo from 1950 to present, and predictions into the future highlight the speed of forest loss. Vast areas of Borneo rainforest have been cleared since the Second World War. Forests are burned, logged and cleared.



The extent of deforestation in Borneo. Image courtesy of UNEP/GRID-Arendal

3. What is replacing the trees?

Cattle farming, soy, palm oil, timber, paper and pulp, mining, roads and towns are replacing the areas that used to be covered in trees.

4. Facts on cattle farming

- Cattle farming for the production of beef is big business.
- In Brazil, which is the world's largest beef exporter, around 70% of the area deforested is now cattle pasture.
- Cattle ranching provides an income for millions of people in rainforest nations.
- Brazil's biggest export market for beef is the EU followed by the Middle East and Russia.
- One third of Brazilian beef exports comes from the Amazon region.
- Cattle ranching in Brazil is estimated to have emitted the equivalent of some 9 to 12 billion tons of CO₂ over the last decade. This is a huge amount, roughly equivalent to two years' worth of greenhouse gas emissions from the United States.
- Growing demand for meat is an important trend shaping the state of the world's rainforests.

5. Facts on soy

- Soy is also known as soya or soya beans.
- It is grown in many countries, including the United States, but rising demand has led to soy being grown in tropical rainforest nations, especially in South America.
- The production of soy in the wetter closed-canopy forest region of the Amazon increased 15% every year from 1999-2004.
- Special soy varieties that grow well in the Amazonian climate have led to more farms growing soy in rainforest nations.
- As prices for soy rise in Paraguay and Brazil, more trees are cut down for more soy to be grown.
- Soy plantations provide an income for hundreds of people in the rainforest nations. It is used for products including oil, protein-rich food (like tofu), as a livestock feed and to make biofuels.
- Its use as a feed for chickens and pigs is increasing now people in developing countries like China and India can afford to buy meat.

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- Its use as a biofuel is on the increase.
- Soy occupies land that could be used for grazing forcing cattle ranching to move from the edges of the rainforest to deeper into the Amazon.

6. Facts on palm oil

- Palm oil trees are native to West Africa.
- Over 80% of the world's palm oil comes from Malaysia and Indonesia.
- In Indonesia, the area of land occupied by palm oil trees has doubled over the last 10 years.
- Millions of hectares of rainforest in Southeast Asia are cleared to plant palm oil, destroying the habitat of endangered species such as elephants, tigers and orangutans.
- Many of Borneo's forests, plants, animals and indigenous people are threatened by palm oil production.
- Palm oil is one of the cheaper vegetable or cooking oils on the market.
- Palm oil is often described on food labels simply as vegetable oil.
- It is found in about 1 in 10 products in UK supermarkets.
- Palm oil is used in food and cosmetic products, from chocolate bars to soaps, but is often simply labelled as vegetable oil and is therefore unidentifiable.
- Its use as a biofuel is on the increase.
- Palm oil planting provides an income for millions of people in the tropics.
- Some products are certified rainforest friendly and a small decision you make like what kind of chocolate you buy can have major consequences for rainforests.

7. Facts on biofuels

- Biofuels are fuels used by cars, buses and lorries that are made from plants and animals.
- The two most common biofuels are ethanol, a petrol alternative made from sugar-based and starch-based crops (such as corn and sugarcane), and biodiesel, made from vegetable oils (palm, rapeseed, soy and sunflower oil).
- Biofuels have been promoted as a desirable alternative to fossil fuels because their use could reduce the transport sector's carbon dioxide emissions. But biofuel production involving the felling and burning of rainforests to clear land for crops can actually result in more carbon emissions than the use of the biofuels themselves saves.



Clearing the forest with fire. Image courtesy of the Rainforest Foundation UK.



A logging truck in Africa. Image courtesy of Rosemary Brown, the Rainforest Foundation UK.



Rearing cattle in Para, Brazil. Copyright Greenpeace / Luciana Napchan.



Deforestation. Image courtesy of the Rainforest Foundation UK.

- Although growing more palm oil and soy can be clearly shown to cause deforestation, the link between biofuels and forest clearance is not as clear.
- In Brazil, sugarcane is grown to produce biofuel in the southern part of the country as it is not suited to the climate in the rainforest region. However, as more land in the South is used for biofuel production, soy cultivation and cattle ranching are moving into the Amazon rainforest.
- Governments are encouraging the addition of biofuels to fuels such as petrol and diesel.
- The total area used for biofuel crops will increase by 242% between 2005 and 2030 with current policies.
- Biofuels made from algae may reduce the pressure on land.

8. Facts on timber

- Cutting down trees to provide wood and paper is known as logging.
- There are two types of logging – clear felling or selectively cutting trees.
- Selectively cutting trees damages almost twice the number of trees as those actually harvested.
- Logging leads to a loss of carbon stored in the soil, reduces soil fertility and results in the loss of animals and plants.
- Attempts to conserve forests are undermined by illegal logging.
- Less than 20% is smuggled out as logs, and the remaining wood is processed in saw, paper or pulp mills, and later exported.
- Demand for wood and paper is rising as many developing nations like China look for product for their growing furniture industry.
- Local communities often see only a tiny fraction of the end selling price of logs. For example, an Afrosia log can sell for \$2,000 in Kinshasa in the Democratic Republic of Congo, but when sawn can sell for more than \$10,000 in Europe.
- Forestry Stewardship Council (FSC) certified timber ensures good practice – sound management practices that help conserve and plant new forests.

9. Other reasons for deforestation

Other reasons for cutting down the rainforests include shifting cultivation, the collection of wood for fuel, mining and the development of roads and hydroelectric dams.

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Pioneer shifting cultivations

Unlike sedentary shifting cultivators who re-use the same areas over and over for growing their crops, migrant slash-and-burn farmers clear primary rainforests, often to grow staple crops like plantain bananas, maize or rice. After a few years, farmers move on to clear more forest because the rainforest soil is poor and can only support crops for a short time.

Wood fuel collection

Fuelwood and charcoal, together known as woodfuels, are used as fuel by many rural and urban poor in developing countries and were thought to be responsible for deforestation. But rising incomes have led many people to switch to other fuels like gas and electricity. Farm-grown trees are also supplying more woodfuels than in the past. Global consumption of fuelwood peaked in the mid-1990s. In much of Asia fuelwood consumption is now declining. In Indonesia, cheap kerosene has replaced wood as an urban fuel.

Mining

The extraction of valuable minerals found in rainforest areas can result in local deforestation. Although the area needed for mining can be small, mining operations generally entail the building of roads and homes and can lead to gardens being created to grow food and the extraction of fuel wood as well as the pollution of water sources.

Many rainforest nations have important mineral deposits. The Democratic Republic of Congo contains vast deposits of cobalt, coltan, copper, diamonds, gold, manganese, zinc. In Madagascar there are a variety of valuable minerals including gold and ilmenite. Minerals known to exist in the Amazon Basin include diamonds, bauxite (aluminium ore), manganese, iron, tin, copper, lead and gold. In Indonesia mining of coal, gold, copper and bauxite has placed pressure on forested areas.

Infrastructure

In order to improve the livelihoods of their people, the governments of rainforest nations are building roads and dams. If not planned carefully, they can destroy areas of rainforest. Plans to build dams in river basins in rainforest areas threaten forests with flooding. Currently, the biggest planned project is the Amazon's Tocantins River Basin hydroelectric project stretching over a distance of 1,200 miles.



Tree frog. Image courtesy of Yalda Davis (left).



Suri child, Brazil. Image courtesy of Briony Mathieson (right).

10. Why is it important?

See our Fact sheet: *Why Rainforests Matter*

If we lose the rainforests, it will mean we lose

1. many of the world's plants and animals (biodiversity)
2. resources that are critical to the welfare of some of the world's poorest people
3. the fight against climate change.

The rainforests offer homes to animals and plants, they remove

carbon dioxide from the atmosphere, a main global warming gas, and release oxygen that we breathe. They give us crops and medicines and contain further undiscovered foods and medicines, which local cultures and knowledge from rainforest peoples will help us discover. They support our way of life and their loss will affect us all.

Cutting them down means more than losing the trees, plants and animals. It will affect our climate and the way we live.



Deforestation in Brazil: A landscape with dense foliage on one side of the river and forest-cleared to expand agricultural land on the other. Copyright S Rocha UNEP/Still Pictures.