

An aerial photograph showing a logging operation. The ground is dark and muddy, with several large, neat stacks of cut logs. A small stream flows through the center of the site. The surrounding area is a mix of cleared land and some remaining green vegetation.

Forests & Deforestation

Pok Rie / Pexels

Presented by [Tiya](#) Foundation

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Sources: WWF, UN, UNFAO, NASA, OWID

Some Key Facts...

- In just over 100 years the world has lost as much forest as it had in the previous 9,000 years – a loss of forested area the size of the US.
- It is estimated that over 15 billion trees are cut down each year, and the global number of trees has fallen by almost half (46%) since the start of human civilization (*Nature*, 2015)
- From 1700 to 1850 - 19 million hectares were being cleared every decade, that's around half the size of Germany in every 10 years.
- From 1850 to 1920 - losses were around 30 million hectares per decade – that's losing a forested area the size of Italy every 10 years.
- From 1920 to 1980 - decadal losses quadrupled to almost 120 million hectares - that's equivalent to the area of South Africa in every 10 years.

Some Key Facts...

- Global Deforestation reached its peak in the 1980s - we lost 150 million hectares – an area half the size of India – during that decade.
- Since then, deforestation has steadily declined, to 78 million hectares in the 1990s; 52 million in the early 2000s; and 47 million in the last decade.
- Deforestation over the years has been driven by the continued expansion of land for beef production, croplands for soy and palm oil and conversion of forest to tree plantations for paper and pulp and NOT for urban development.
- Urban land accounts for just 1% of global habitable land so *humanity's biggest footprint is due to what we eat, not where we live.*
- Today half of global habitable land is used for farming.

Causes of Deforestation...

- Beef, Soy and Palm oil are responsible for 60% of tropical deforestation
- The expansion of pasture land to raise cattle for beef production was responsible for 41% of tropical deforestation - about 2.1 million hectares every year – about half the size of the Netherlands.
- Palm oil and Soy drove 18% of deforestation.
- The third largest driver is forestry products, which is dominated by paper but also includes timber.
- Europe and US are driving deforestation elsewhere; whilst many subtropical countries are cutting down trees to meet this demand from rich countries.
- High-income countries were the largest ‘importers’ of deforestation, accounting for 40% of it.

Deforestation due to Soy & Palm Oil

- 77% of global Soy is fed to livestock for meat and dairy production - most of the rest is used for biofuels, industry or vegetable oils.
- Just 7% of soy is used directly for human food products such as tofu, soy milk
- Palm oil is a versatile product which is used in a range of products across the world:
 - 68% is used in foods – margarine, chocolate, pizzas, breads and cooking oils
 - 27% is used products such as soaps, detergents and cosmetics
 - 5% is used as biofuels for transport, electricity or heat.
- Palm oil production has increased rapidly over the past 50 years – from 2million tonnes in 1970, to 71 milliun tonnes in 2018.

And...why does Deforestation matter?

- Forests are vital for the health of our planet - they provide food and shelter for so much of life on Earth – more than half the world's land-based plants and animals, and three-quarters of all birds, live in and around forests.
- Forests have a big influence on rainfall patterns, water and soil quality and flood prevention - millions of people rely directly on forests as their home or for making a living.
- Trees absorb and store carbon dioxide - if forests are cleared, or even disturbed, they release carbon dioxide and other greenhouse gases. Forest loss and damage is the cause of around 10% of global warming leading to climate crisis.
- Millions of indigenous people and tribes rely directly on forests as their home or for making a living – Deforestation is threatening their livelihood and culture.

Quiz Time!

What is the No. 1 reason for Deforestation ?

Agriculture

Paper

Houses

Quiz Time!

How many trees are cut down each year?

500 million

10 million

15 billion

Quiz Time!

What do Trees produce that allows us humans to live ?

Water

Carbon dioxide

Oxygen

Quiz Time!

How much forest are we losing every minute as per current trends ?

10 football
fields

5 football
fields

1 football
field

Governments, Policy Makers, Industries around the world are trying to help stop Deforestation...

- Funds are being allocated for developing countries to restore damaged land, tackle wildfires and support indigenous communities.
- World's biggest financial companies are pledging to end investment in activities linked to deforestation.
- Global treaties like the Convention on International Trade in Endangered Species (CITES) and Convention on Biological Diversity have been signed to protect forests and the wildlife that rely on forest habitats.
- A £1.1bn fund has been established to protect the world's second largest tropical rainforest - in the Congo Basin.

Innovation to stop Deforestation

- **Audio detection devices (Rainforest Connection)**

Rainforest connection uses audio cues to prevent illegal logging in the rainforests by using old mobile phones combined with modern software to create a network of listening devices across the forest. When a chainsaw or truck sound is heard by one of the devices it sends an alert notification to someone who can go and check out the activity and see what is happening.

- **Reforestation drones (Biocarbon Engineering)**

Biocarbon Engineering are using drones that shoots trees into the ground. The drones fly 2 to 3 meters above the ground shooting seedpods into the soil. These pods are filled with not just the tree seeds but all the nutrients required the tree needs to start it's life. Biocarbon Engineering is backing themselves to plant 1 billion trees a year by 2022.

Innovation to stop Deforestation

- **Bio-Mimicking leaf litter (Nucleario)**

An all-in-one reforestation solution which mimics the function of leaf litter. Natural leaf litter provides many useful functions to tree saplings such as preventing soil washing away, keeping moisture levels high and protecting from predators and invasive species Nucleario cuts down on the maintenance and fertilizer requirement to get the new trees started and it also increases the success rates dramatically.

- **Scannable powder to spray on trees (Stardust)**

Knowing if logs came from a legal or illegal source can often be tricky to determine so a way to verify the origin of wood can be vital. Stardust is a powder that is designed to be sprayed onto trees. This dust forms a layer on the wood that can subsequently be scanned to determine the origin of the logs.

What Can We Do To Help ?



We can Repair Planet Earth....

- Plant trees at school or in your local community either individually or as part of a collective.
- Start meat and dairy free days at school! - eat more plant-based meals – your body and the planet will thank you.
- Go paperless at home and in the office.
- Just recycling is not good enough, reuse as much as possible – use blank paper for rough use, always print on both sides, reuse plastic packaging...
- Just don't waste any food whatsoever and tell others not to as well... buy, take only what you need, store food properly, use leftovers...
- Talk, Discuss, Influence your friends, family and community on how our everyday actions can impact forests around the world.

We can Repair Planet Earth....

- Ensure that the products you purchase are made from 100% recycled content and/or that the sourcing is done in an environmentally and socially responsible manner.
- Look out for sustainability certificates/labels and buy only those products which are certified....



Your first step to Repair Planet Earth ?

