

DEFORESTATION : CAUSES ; CONSEQUENCES & MANAGEMENT

FOR SEMESTER 4 (CBCS) GEOGRAPHY

PAPER 10 ; UNIT : II ; TOPIC : 11



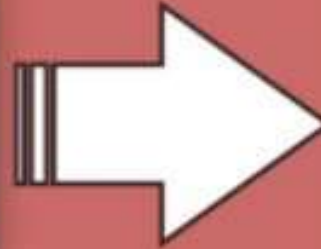
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Introduction

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Introduction: Deforestation



- Forests cover 31% of the land area on our planet
- They produce vital oxygen and provide homes for people and wildlife
- Many of the world's most threatened and endangered animals live in these forests
- 1.6 billion people rely on benefits forests offer, including food, fresh water, clothing, traditional medicine and shelter



Current Situation of our Rainforests

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Top 10 Countries with Highest Deforestation





Country	Deforested Area (Hectares)	Country	Deforested Area (Hectares)
Brazil	3,466,000	Peru	224,600
Indonesia	1,447,800	USA	215,200
Russia	532,200	Bolivia	135,200
Mexico	395,000	Sudan	117,807
Papua New Guinea	250,200	Nigeria	82,000

Current Situation in Brazil

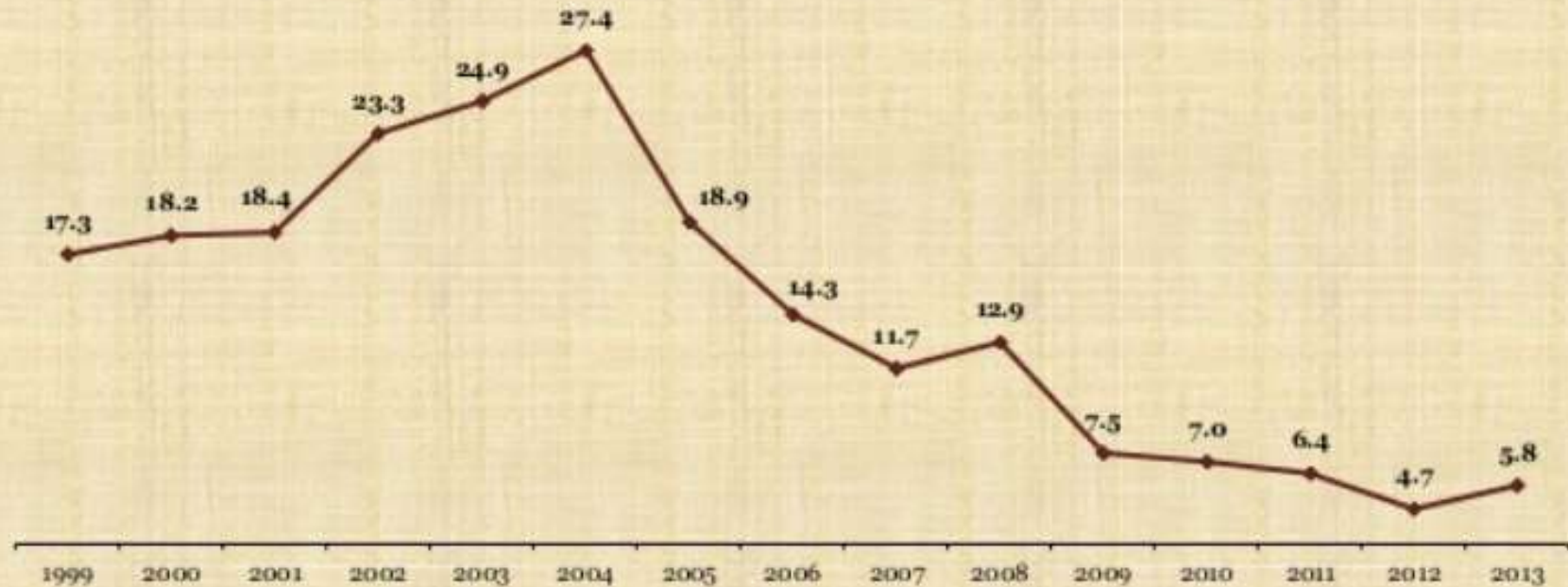


Case Study: Amazon Rainforest

Events	Year	Description
	1960s	Colonists began establishing farms within the forest via slash-and-burn method
	1970s	Construction began on the Trans-Amazonian Highway, paving roads and making it easier to transport timbre
	1990 – 2000s	Total Area forest lost in the Amazon rose by 160,000 sq km to 587,000 sq km, of which 70% used for livestock pasture
	2005	Use of satellite data has helped the government slash deforestation by 80% by allowing police to pinpoint illegal activity in the forest
	2013	Satellite data reported a 28% increase in deforestation to 5,843 sq km compared to the previous year

Case Study: Amazon Rainforest (Past 15 Years)

'000 Sq km of deforestation (per annum)



Source: Institute of Space Research (INPE)

- While present figures are much better than before, deforestation continues to threaten the world's ecosystem
- The razing of forests continues to be a major contributor to the emissions that drive climate change

Causes of Deforestation

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Causes of Deforestation

1. Clearing land to build housing

- Countries resort to deforestation to cope with the increasing demand for housing brought about by the growing population

2. Felling trees for wood

- Logging, or simply cutting down trees for timber is one of the main causes of deforestation

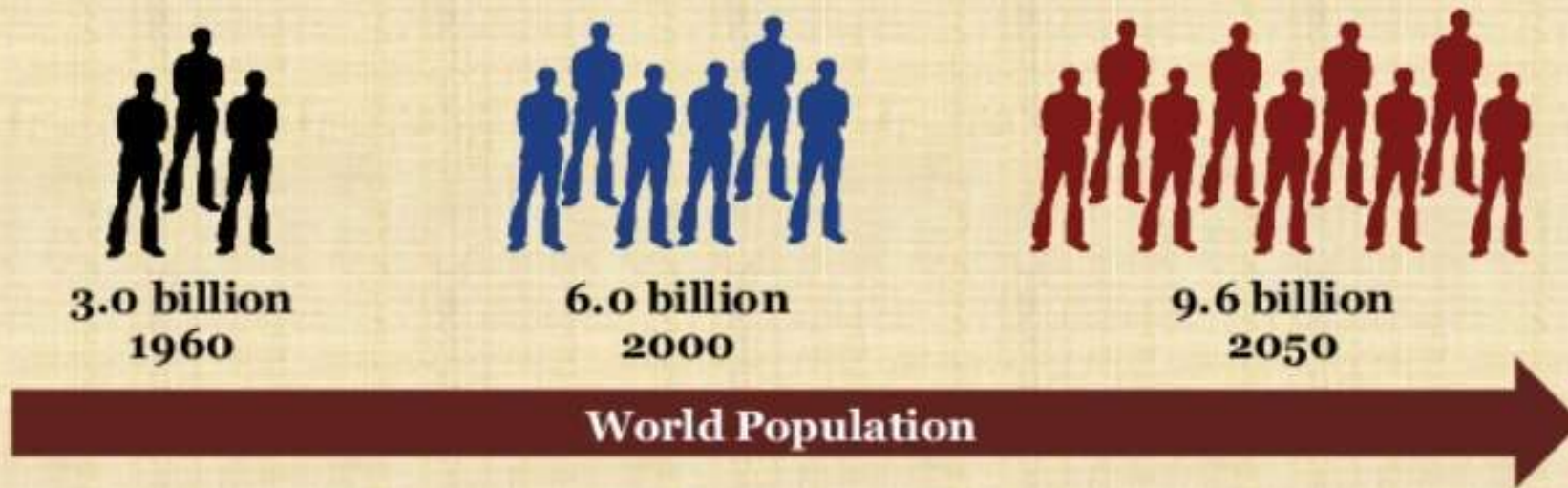
3. Agriculture


- To provide land for food crops such as palm oil and for rearing cattle, undisturbed rainforest areas end up being removed

4. Other land uses

- Land for mining and industrial projects
- Building dams

1. Growing Demand for Housing



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- The current world population of 7.2 billion is projected to reach 9.6 billion by 2050, according to a UN report
 - To cater to the increasing housing needs, many resort to removing rainforests to create land

2. Logging

Wood felling by commercial logging companies



- Many commercial logging companies fell down trees in a process known as selective logging, where only the most valuable trees are felled

Growing demand for products made from wood



- Over the years, the uses of wood moved from wood fuel to construction materials such as shelters and furniture
- Today, almost every household has something made out of wood, eg. floor tiles, cutleries and musical instruments

3. Agriculture – Crop Planting & Cattle Ranching

Clearing of Land for Palm Oil and other Crop Plantations



Clearing of Land to Rear Cattle

Cattle Ranching



Subsistence Farming



Breeding Cows for Milk



4. Other Land Uses

Mining and Industrial Projects

Mining Projects



Industrial Projects



Building Dams

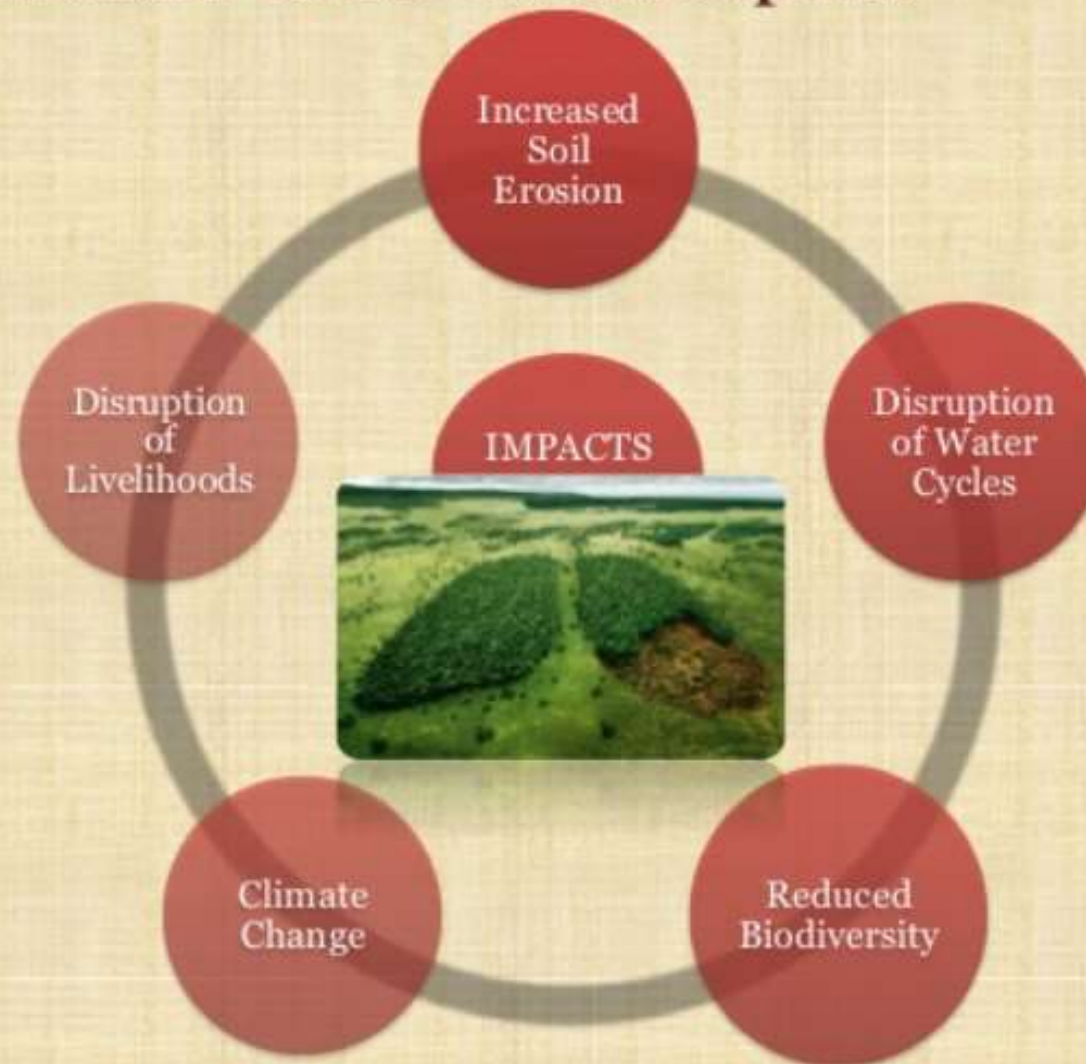


- In India and South America, rainforests have been destroyed by the building of hydro-electric dams
- It was the dominant view that new dams had to be built or otherwise these countries would suffer an energy crisis

Effects

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Environmental & Economical Impacts



Short Term Environmental Effects

Increased Soil Erosion



- No trees anchoring the fertile soil
- Erosion is sweeping the land into rivers
- The agricultural plants replacing the forests are unable to hold onto the soil
- Since 1960 a third of world's arable land has been lost
- As fertile soil washes away producers move on, clearing more forests

Disruption of Water Cycles



- Trees play a key role in the local water cycle
- Keep balance between the water on the land and the water in the atmosphere
- Disrupted balance changes the precipitation and river flow

Long Term Environmental Effects

Reduced Biodiversity



- 80 % species can be found in tropical rainforests
- Often unable to survive in the small fragments of forested land left behind
- Accessible to hunters and poachers
- Leading to extinction

Climate Change



- Forests help to mitigate carbon dioxide and other greenhouse gas emissions
- When cut, burned or otherwise removed they become carbon source
- Tropical forests hold more than 210 gig tons of carbon
- Deforestation represents 15% of greenhouse gas emissions
- Rising temperatures, changed patterns of weather and increase of extreme weather events

Economical Effects

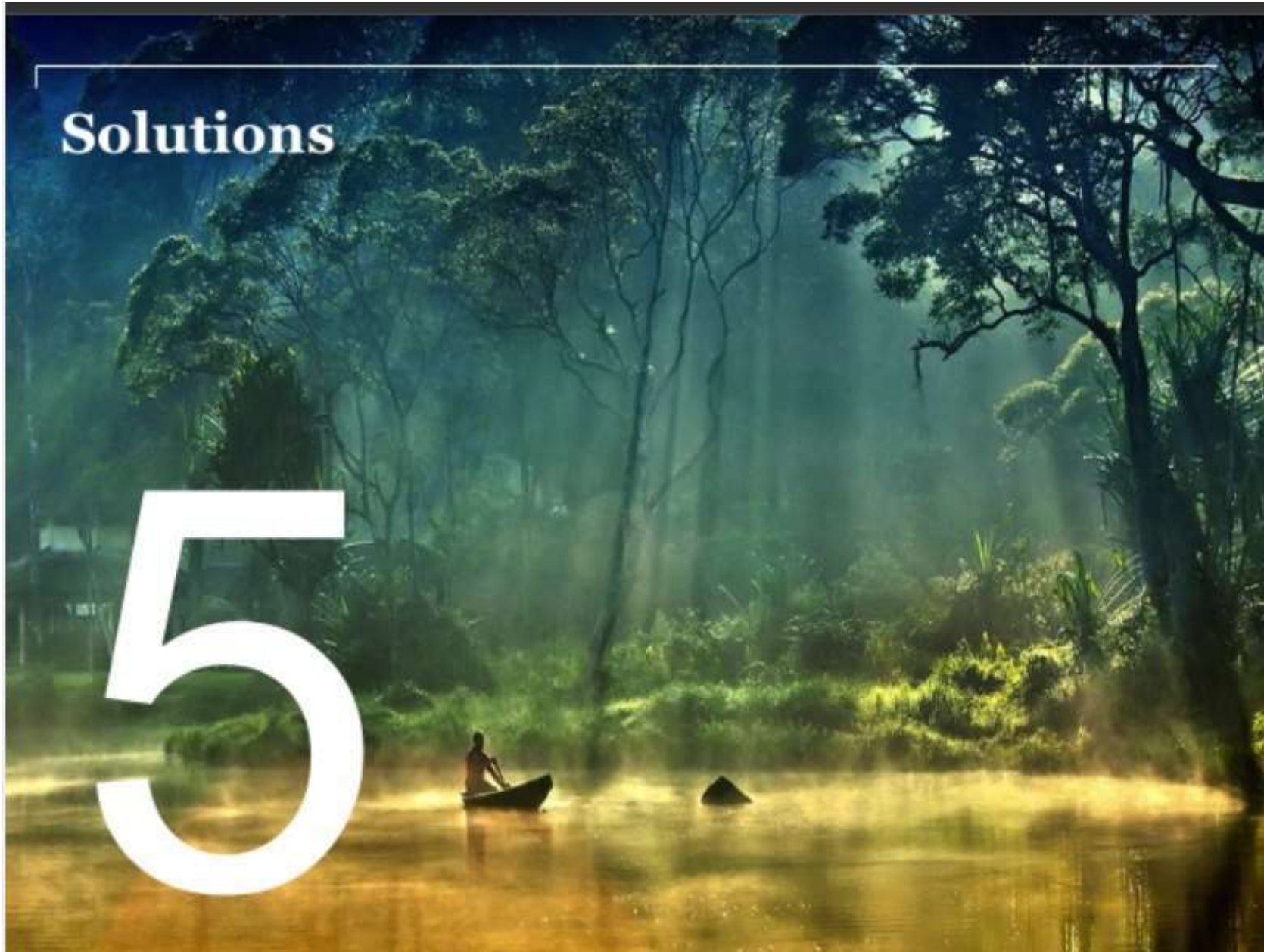
Disruption of Livelihoods

- Deforestation greatly influences many lives
- In Southeast Asia deforestation contributed to migration and social conflicts
- In Brazil the poor people are constantly pressured to move from their villages often to remote soy plantations where they have to work under inhumane conditions
- Destroying sources of medicine
- Increasing food insecurity
- Flooding causing loss of many lives and homes



Solutions

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Solutions

1. Corporations

- If corporations have the ability to destroy the world's rainforests, they also have the power to help save them

2. Governments

- Governments are able to enact ambitious domestic and international forest policies that have wide-ranging effects

3. Individuals

- As individuals, we contribute significantly to deforestation with our lifestyle, hence we have the responsibility to keep ourselves in check

1. Corporations

Implement anti-deforestation policies



- Corporations can implement anti-deforestation policies that require suppliers and other stakeholders to operate in ways that do not harm the environment

Minimise paper wastage and encourage recycling



- Corporations are huge consumers of paper. Management can work towards a paper-free office by shifting towards email and soft-copies, and also encourage their employees to recycle

2. Governments

Reforestation



- The cutting down of trees must be countered by replacing old ones that were cut with young ones. Trees are being planted every year, but they still don't match the number of trees that we lost

Support organisations that push for anti-deforestation



- Governments have the resources to allow anti-deforestation organisations to get their message across and increase their sphere of influence. This is a good way to indirectly solve deforestation

3. Individuals

“You may never know what results come from your action. But if you do nothing, there will be no result.”

– Mahatma Gandhi

3. Individuals

Recycle



- Everybody, even children, can be conscious of the need to recycle. Instead of throwing paper away, we can always seek to recycle it or use it for other purposes

Use recycled products



- By purchasing recycled products, we are encouraging more and more companies to produce recycled products, which deal less damage to our forests, creates less waste and decreases the need for new raw materials

3. Individuals

Go paperless



- For ecological deforestation to end, paper consumption must be drastically reduced. Opting for paperless bills, checks and payments significantly contributes towards mending the harmful effects of deforestation

Be conscious of your food choices



- Cattle grazing is one of the primary causes of deforestation. Limit your consumption of fast food meat and always choose to buy locally. Knowing where your food comes from helps to combat deforestation

3. Individuals

Use renewable energy



- In some places, especially developing countries, wood is still used as fuel. Purchase renewable energy, such as solar, geothermal and wind energy to help stop deforestation

Educate others of the need to fight deforestation



- What's better than one person fighting deforestation? Two people doing the same thing. Spread your knowledge and urge others to follow in your footsteps and fight deforestation

Conclusion

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Conclusion





THE END

THANK YOU