Status of Deforestation

Why in news?

According to the recent State of the World's Forests 2024, global efforts curb deforestation but threats to forests from wildfires and pests remain.

What is deforestation?

- **Deforestation** – It is the large-scale removal of forests or trees from land which is then converted to non-forest use.
- It can involve the clearing of land for agriculture, logging for timber, or urban development.
- **Causes -** *Conversion of forests into agricultural* land to meet the food and commodity demand.
- *Commercial logging* for timber & wood products and clearing of forests for *mining operations*.
- *Infrastructure developments* like Urbanization, road construction, and building of dams.
- Both natural and man-made *fires* can lead to significant forest loss.
- **Impacts -** It results in the *permanent destruction of forests* and woodlands, impacting the environment and biodiversity.
- *Destruction of flora and fauna habitats* leading to the extinction of species.
- Loss of habitat and resources for indigenous people.
- It *reduces carbon dioxide absorption* leading to increased greenhouse gases in the atmosphere.
- It *disrupts the water cycle* and affects the rainfall patterns and water supply.
- Loss of trees leads to *soil erosion* and degradation and higher likelihood of *floods and landslides* due to lack of tree cover.

What is the current status in relation to deforestation?

- The report, titled The State of the World's Forests, provides a comprehensive analysis of forest conditions and trends.
- It estimated that between 1990 and 2020, approximately 420 million ha of forest were converted to land use.

> ***The State of the World's Forests (SOFO)*** *report of Food and Agriculture Organisation (FAO) provides highlights on the state of the world's forests and builds on the FAO Science and Innovation Strategy to explore the transformative power of evidence-based innovation in the forest sector.*

- **Decrease in Deforestation** – The preliminary data from the Global Forest Resource Assessment (2025) show an 8.4% decrease in deforestation in *Indonesia* for 2021-22 compared to 2020-21, the overall reduction was *recorded to be 90%.*
- *Brazil, too, registered 50% decrease* in deforestation in 2023 compared to 2022 in the Legal Amazon region.

Global Forest Resources Assessment *(FRA) is an initiative of FAO. It provides essential information for understanding the extent of forest resources, their condition, management and uses.*

- **Decline in deforestation rates** – It is *lower than previous decades,* with several countries showing significant improvements.

Decade	Deforestation Rate
1990-2002	15.8 million ha per year
2015-2020	10.2 million ha per year

- **Reduced net rate of change in forest area** – It is the *difference between forest expansion and deforestation.*
- It is estimated to be *lower in 2010-2020*, which was significantly *lower than in the two previous decades*.

Decade	Net Rate of Change in Forest Area
1990-2000	-7.8 million ha per year
2000-2010	-5.2 million ha per year
2010-2020	-4.7 million ha per year

- **Increase in Forest area** – It noted *10 countries recording annual gains* in forest area in 2020.
    - It include China, Australia, India, Chile, Viet Nam, Turkey, the United States of America, France, Italy and Romania.
- **Decreased mangrove losses** – The *rate of gross global mangrove loss decreased* by 23% between the two recent decades (2000-2010 and 2010-2020).
- *Asia was the major contributor* to mangrove loss and gains owing to aquaculture, natural retraction, conversion to oil-palm plantations, rice cultivation and other agriculture uses.
- **Decreased mangrove gains** – The *rate of gain in mangrove area also decreased* slightly.
- Extreme weather events due to climate change and sea-level rise threaten mangroves.
- **Increased resilience of mangroves** - Although the net change in mangrove area globally was negative between 2000 and 2020, the extent of *natural expansion surpassed the area lost to natural causes* by 63% (294,500 ha compared with 186,200 ha).

How climate change accelerates deforestation?

- **Impacts of Climate change** - It is making forests more vulnerable to ***abiotic and***

biotic stressors such as wildfire and pests.

- **Increased wildfires** – The *frequency and intensity* of wildfires is increasing, including in areas not previously affected, particularly *due to climate change and land-use change*.
    - About 383 million ha (equivalent to less than half the land area of Australia) of land were affected by fire in 2023 alone.
- It noted that the increasing intensity and frequency of wildfires are having *impacts at local, national and global levels*.
- Satellite data revealed that total fires in 2023 *emitted 6,687 megatons of carbon dioxide globally*.
    - **For instance**, the ***boreal fire in 2021*** contributed to about 10% of global carbon-dioxide emissions.
- **Threats from pests** – Climate change is making forests more *vulnerable to invasive species*.
- It causing changes in their *geographic distribution, seasonal phenology* and in aspects of population dynamics.
- Insect pests and disease pathogens can *reduce tree growth and survival, wood quality* and the provision of ecosystem services such as carbon sequestration.
    - ***Pine wood nematode*** made a significant damage to native pine forests in China, Japan and the Republic of Korea.

What lies ahead?

- Given rapidly changing environmental conditions and rising demands on forests, *more innovation is needed* in the forest sector.
- Use technological innovations like promoting *open access to remote-sensing data* to access high-quality forest data and improve forest management processes.
- Take efforts to better engage women, youth and Indigenous Peoples in *developing locally led solutions*.
- Follow *new forest and land management approaches*.
- Innovations in *public and private-sector finance* to enhance the value of standing forests, boost restoration efforts and increase access to loans for smallholders for sustainable production.

References

1. Down To Earth| Climate Change Impacts Deforestation Control Measures
2. FAO| Status of Deforestation