



## Forest Destruction in Ukraine War

**For Prelims:** [Sviati Hory National Park](#), [Pine Forests](#), Przewalski Horse, [Carbon Capture](#), [World Bank](#), [Methane](#), [Nitrous Oxide](#), [Sulphur Dioxide](#), [Chlorofluorocarbons](#), [Soil Erosion](#), [Nutrient Cycles](#), [Orangutan](#), [Environmental Modification Convention \(ENMOD\)](#), [Biodiversity](#), [UN Environment Programme \(UNEP\)](#), [Forest Stewardship Council \(FSC\)](#), [Munduruku people of the Amazon](#), [Convention on International Trade in Endangered Species \(CITES\)](#), [Convention on Biological Diversity](#), [UN Framework Convention on Climate Change](#), [Bonn Challenge](#), [United Nations Decade on Ecosystem Restoration \(2021-2030\)](#).

**For Mains:** Effect of war on forests and environment.

[Source: TH](#)

### Why in News?

Recently, a fire caused by a blast wiped out three hectares of **80 year old pine trees** at the **Sviati Hory national park** in eastern **Ukraine**.

### How the Ukraine War Caused Forest Destruction?

- **Widespread Forest Destruction:** Eastern Ukraine's [pine forests](#), including the rare **chalk pine**, have suffered severe damage, with about **80% of Luhansk (Russian-held areas)** region's pine forests destroyed.
  - Around **425,000 hectares** of forest across Ukraine have been contaminated with **mines and unexploded ordnance**.
- **Impact on Wildlife:** The conflict has left **vast areas stripped of wildlife habitats**, affecting species such as **deer, boars, woodpeckers**, and the [endangered Przewalski's horses](#).
- **Environmental Damage: Forest fires** caused due to war **emitted** an equivalent of **6.75 million metric tons of carbon dioxide**, equal to the annual emissions of **Armenia**.
  - The [carbon capture potential](#) of forests has been lost due to the destruction of trees, compounding environmental damage.
- **Soil and Water Contamination:** The war has **poisoned soil and rivers** across Ukraine, creating long-term environmental hazards.
  - It has left the **land unsuitable** for habitation and regeneration.
- **Long-Term Consequences:** Experts estimate that **demining (landmine clearance) efforts** could take **70 years**, and the subsequent **regeneration** of forests could take even longer.
- **Economic Cost:** The [World Bank](#) estimated the total damage to forests and natural protected areas, including wetlands, exceeds **USD 30 billion**.
  - This includes **USD 3.3 billion** in direct damage, **USD 26.5 billion** in broader economic and environmental costs, and a **USD 2.6 billion** repair bill.

### What are the Consequences of Forest Destruction?

- **Global Warming: Deforestation** is responsible for **11% of global greenhouse gas emissions**, including gasses like **CO<sub>2</sub>**, **CH<sub>4</sub> (methane)**, **N<sub>2</sub>O (nitrous oxide)**, **SO<sub>2</sub> (sulfur dioxide)**, and **chlorofluorocarbons (CFCs)**.
  - Since 1990, **420 million hectares** of forests have been lost due to conversion to **agriculture, industrial use** etc to support the rising global population.
- **Impact on Climate and Rainfall:** Trees release water into the atmosphere through **transpiration**, contributing to rainfall.
  - Deforestation reduces this process, leading to **diminished rainfall** and disruptions in the water cycle, amplifying the **double effects** on climate and agriculture.
- **Depletion of Clean Water Sources:** According to experts, a **1% increase in deforestation** results in a **0.93% decrease** in the availability of clean drinking water in **rural communities** that rely on open wells and flowing streams.
- **Rise in Infectious Diseases:** Deforestation leads to **spikes in infectious diseases** like **malaria** and **dengue**, as it disrupts ecosystems and facilitates the spread of disease-causing germs.
- **Soil Degradation:** The loss of forests results in **soil degradation**, further harming **agriculture and natural ecosystems**.
  - Forests play a crucial role in preventing **soil erosion**, maintaining **nutrient cycles**, and conserving **water resources**.
- **Loss of Biodiversity:** Deforestation is responsible for **destroying the habitats** of millions of animals, plants, and insects, leading to **species extinction**.
  - In the Amazon alone, **10,000 species** are at risk, including **2,800 animal species**.
  - **Palm oil production**, in particular, has driven species like **orangutans** to the brink of **extinction**.

## What Initiatives Can be Taken to Preserve Forest?

- **Strengthening International Treaties:** Support initiatives like the **Environmental Modification Convention (ENMOD)**, which bans the use of **environmental destruction as a method of warfare**.
  - Expand international laws to explicitly **prohibit deliberate destruction of forests** during warfare, akin to **war crimes**.
- **War-Free Conservation Zones:** Establish **peace parks** or **conservation zones** in conflict areas, where **forests and biodiversity** are shielded from the direct impacts of war.
- **Post-War Reforestation:** Implement large-scale **reforestation projects** in areas that suffered forest loss due to war.
  - **International organisations**, such as the **UN Environment Programme (UNEP)**, can play a critical role in coordinating these efforts.
- **Limiting Resource Exploitation During War:** Track and block the **trade of conflict timber**, similar to how **conflict diamonds** are regulated, to stop financing war through environmental destruction.
- **Zero Deforestation Policies:** By implementing "**zero deforestation**" policies, companies can clean up their **supply chains**, ensuring that commodities like **timber, beef, soy, palm oil, and paper** are produced in ways that do not fuel **deforestation**.
- **Third-party Certification:** **Third-party certification**, such as the **Forest Stewardship Council (FSC)**, can be a useful tool to ensure that any **virgin fibre** used is sourced in a **legal, environmentally, and socially** responsible way.
  - FSC is an international, **non-governmental organisation** dedicated to promoting responsible management of the world's forests via **timber certification**.
- **Supporting Indigenous Peoples:** **Indigenous Peoples** is crucial in preserving forests.
  - **E.g.**, The **Mundurucu people of the Amazon** are fighting to protect their forests from destructive projects like logging and dam construction.
- **Sustainable Consumer Choices:** **Informed daily choices** such as avoiding **single-use packaging**, and choosing **responsibly-produced wood products** can help reduce deforestation.
  - Reducing or adopting a **plant-based diet** is also encouraged to help protect forests.
- **Government Policies:** Treaties like the **Convention on International Trade in Endangered Species (CITES)**, the **Convention on Biological Diversity**, and the **UN Framework Convention on Climate Change** can help protect forests globally.

## What are the Various Global Afforestation Initiatives?

- [Bonn Challenge](#)
- [The Trillion Trees](#)
- [United Nations Decade on Ecosystem Restoration \(2021-2030\)](#)
- [Great Green Wall](#)
- [Global Forest Financing Facilitation Network](#)

## Conclusion

The Ukraine war has **devastated forests, wildlife, and the environment**, exacerbating **global warming, habitat loss, and soil degradation**. Addressing forest destruction requires stronger **international treaties, post-war reforestation, war-free conservation zones**, zero deforestation policies, sustainable consumption, and support for Indigenous communities to protect forests globally.

### **Drishti Mains Question:**

Discuss the impact of wars on forest ecosystems. What are the long-term environmental consequences of such forest destruction?

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### **Prelims**

**Q. Which of the following statements is/are correct?**

**Proper design and effective implementation of UNREDD+ Programme can significantly contribute to (2016)**

1. protection of biodiversity
2. resilience of forest ecosystems
3. poverty reduction

**Select the correct answer using the code given below:**

**(a)** 1 and 2 only

**(b)** 3 only

**(c)** 2 and 3 only

**(d)** 1, 2 and 3

**Ans: (d)**

**Q. With reference to 'Forest Carbon Partnership Facility', which of the following statements is/are correct? (2015)**

1. It is a global partnership of governments, businesses, civil society and indigenous peoples.
2. It provides financial aid to universities, individual scientists and institutions involved in scientific forestry research to develop eco-friendly and climate adaptation technologies for sustainable forest management.
3. It assists the countries in their 'REDD+ (Reducing Emissions from Deforestation and Forest Degradation+)' efforts by providing them with financial and technical assistance.

**Select the correct answer using the code given below:**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Ans: (c)**

**Q. 'BioCarbon Fund Initiative for Sustainable Forest Landscapes' is managed by the (2015)**

- (a) Asian Development Bank
- (b) International Monetary Fund
- (c) United Nations Environment Programme
- (d) World Bank

**Ans: (d)**

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**Mains**

**Q.** The process of desertification does not have climate boundaries. Justify with examples **(2020)**

**Q.** The states of Jammu and Kashmir, Himachal Pradesh and Uttarakhand are reaching the limits of their ecological carrying capacity due to tourism. Critically evaluate. **(2015)**

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