



Land Use Changes

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Why in News

According to the **United Nations Convention to Combat Desertification (UNCCD)**, the **land use change**, which prepares the ground for **zoonoses** like **Covid-19**, should be reversed.

Land use change promotes zoonoses like Covid-19 as the interaction and physical distance between animals and humans get closer.

Key Points

- **Land Use Change:**
 - **Land use change** is a process which **transforms the natural landscape** by direct human-induced land use **such as settlements, commercial and economic uses and forestry activities**.
 - It impacts the overall environment in terms of **greenhouse gas emission, land degradation and climate change**.
- **Data Analysis:**
 - Land use change can be a **factor in CO₂ (carbon dioxide) atmospheric concentration**, and is thus a contributor to **global climate change**.
It represents almost **25%** of total global emissions.
 - According to the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), over **70% of all natural, ice-free land** in the world is affected by human use.
This could further rise to **90% by 2050**.
 - The land degradation affects **3.2 billion people** worldwide.
 - **Ecosystem services** e.g. forest, agriculture, grassland tourism etc. worth \$10.6 trillion are lost due to land degradation annually.
 - According to the **Food and Agriculture Organization** of the **United Nations**, by 2050, over 500 million hectare area of new agricultural land will be needed to meet the global food demand.

- **Possible Reasons:**

- **Population Growth:** Fast population growth and the consequent high pressure on resources have an adverse effect on the existing natural resources of the land area.
- **Encroachment of Land:** Substantial increase in demand for food has resulted in an expansion of croplands by encroaching on uncultivated areas including forest, shrub and wetlands.
 - According to the **Intergovernmental Panel on Climate Change (IPCC)** report on climate change and land, agricultural land for food, animal feed and fibre is behind the land use change.
- **Use of Forest Resource:** Continuous and exhaustive thinning of forestry resources for diverse uses, particularly for construction, firewood and agricultural tools led to the degradation of forest cultivated land.
- **Grazing at Cultivated Land:** Farmers often abandon and leave the cultivated land for grazing purposes due to the declining of its **soil fertility status**.
- **Destruction of Wetlands:** The conversion of the wetland to the cultivated and settlement land leads to the destruction of wetlands.

- **Solutions:**

- **Climate Smart Land Management Practices:** According to a report by IPCC on land use, **increased food productivity, improved cropland management, livestock management, agroforestry, increased soil organic carbon content and reduced post-harvest losses** would help in ecosystem conservation and land restoration .

These management practices could deliver up to \$1.4 trillion in increased crop production.

- **Forest Management:** Improved fire management and improved grazing land can help in land restoration.
- **Restore and Rehabilitate:** To achieve **Land Degradation Neutrality (Sustainable Development Goal target 15.3)**, additional commitments in the land use sector, namely to restore and rehabilitate 12 million hectares of degraded land per year could help close the emissions gap by up to 25% in the year 2030.

The restoration of these **areas as part of building back better to avoid future zoonoses** would bring other crucial benefits, particularly mitigating climate change.

United Nations Convention to Combat Desertification

- **Established in 1994**, the United Nations Convention to Combat Desertification (UNCCD) is the sole legally binding international agreement linking environment and development to sustainable land management.

- It is the only convention stemming from a direct recommendation of the Rio Conference's Agenda 21.
- **Focus Areas:** The Convention **addresses specifically the arid, semi-arid and dry sub-humid areas**, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.
- From India, **the Ministry of Environment, Forest and Climate Change** is the nodal Ministry for this Convention.

World Day to Combat Desertification and Drought 2020

- June 17 is observed worldwide as **World Day to Combat Desertification and Drought**.
- **Theme: Food, Feed, Fibre** which seeks to educate individuals on how to reduce the impact of food consumption.
- According to the United Nations, 2020 Desertification and Drought Day focuses on the links between consumption and land.
- This year's 'global observance event' is being hosted virtually by the Korea Forest Service.

Zoonoses

- It is any disease or infection that is naturally transmissible from vertebrate animals to humans.
- Animals thus play an essential role in maintaining zoonotic infections in nature.
- Zoonoses may be bacterial, viral, or parasitic.

Way Forward

- The urgency to **slow down and reverse land use change** cannot be overstated as **land is a critical component of biodiversity**.
- The land use sector is critical to achieving the aim of the Paris Agreement to limit global warming to 2°C.
- **Responsible land governance** is key to provide an enabling environment for ecosystem restoration, biodiversity protection, land use-based adaptation and for improving the livelihoods of many small-scale farmers.
- Parties to the **UNCCD** have the opportunity to adopt an ambitious resolution on land holdings for Land Degradation Neutrality. They must use this opportunity to empower communities to better adapt to the impacts of the climate emergency.

Source: DTE