



## Mains Practice Question

**Q.** "India has set ambitious targets for Land Degradation Neutrality by 2030. Discuss the challenges and opportunities in achieving these targets." (250 words)

01 Jan, 2025 GS Paper 3 Bio-diversity & Environment

### Approach

- Introduce the answer by defining Land Degradation Neutrality and India's targets
- Delve into the Challenges in Achieving LDN Targets
- Give Opportunities in Achieving LDN Targets
- Conclude suitably.

### Introduction

**Land Degradation Neutrality** refers to a state where the amount and quality of land resources remain stable or increase through sustainable practices. India, where **29.32% of its total geographical area** suffers from degradation, is prioritizing interventions to reverse land degradation.

- India, as a signatory to the **United Nations Convention to Combat Desertification (UNCCD)**, has committed to achieving **Land Degradation Neutrality** by 2030.

### Body

#### Challenges in Achieving LDN Targets:

- **Expanding Land Degradation:** India faces severe desertification and degradation in states like **Rajasthan, Gujarat, Maharashtra, and Madhya Pradesh**.
  - About **68% of cropped area in India is vulnerable to drought**, impacting soil fertility and agricultural output.
  - The **Thar Desert's expansion** due to sand encroachment affects croplands and rural livelihoods.
- **Unsustainable Agricultural Practices:** Excessive use of fertilizers, pesticides, and irrigation has degraded soil fertility and increased salinity.
  - The groundwater situation in Haryana has reached critical levels with 88 out of 143 blocks now categorised as overexploited, and salinity is rising due to over-irrigation.
- **Rapid Urbanization and Industrialization:** Encroachment for infrastructure projects, real estate, and mining has led to the loss of fertile lands.
  - Urbanisation is projected to cause the loss of between **1.6 and 3.3 million hectares of prime agricultural land per year** in the period between **2000 and 2030**
- **Climate Change:** Erratic rainfall patterns, rising temperatures, and recurring droughts worsen land degradation.
  - The **Bundelkhand region** has experienced severe droughts, leading to soil erosion, desertification, and distress migration.
- **Lack of Awareness and Participation:** Farmers and rural communities often lack awareness of sustainable land practices or fear immediate economic losses from adopting them.

- Reluctance to shift from traditional cropping practices to agroforestry or organic farming limits progress.

### Opportunities in Achieving LDN Targets

- **Large-Scale Afforestation and Reforestation: Green India Mission and CAMPA Funds** support forest cover enhancement, with a focus on degraded lands.
  - **Example:** The **Aravalli Green Wall Project** aims to reduce desertification through large-scale plantation drives.
- **Sustainable Agricultural Practices:** Schemes like **Paramparagat Krishi Vikas Yojana (PKVY)** encourage reducing chemical inputs.
  - **Andhra Pradesh's Zero Budget Natural Farming** model reduced land degradation and improved soil health, serving as a replicable model.
- **Agroforestry:** Incorporating trees on farmlands prevents erosion, enhances biodiversity, and restores soil structure.
  - Karnataka's **Bamboo Mission** has successfully integrated agroforestry to restore degraded farmland.
- **Integrated Watershed Management** Programs like the **Integrated Watershed Management Programme (IWMP)** focus on rainwater harvesting, check dams, and soil rehabilitation.
  - **Maharashtra's Jalyukt Shivar Abhiyan** reduced land degradation by increasing soil moisture retention and water availability.
- **Leveraging Technology for Precision Intervention and Involving Local Communities:** Advanced technologies identify degraded lands, monitor desertification, and assess restoration impacts.
  - Involving Self-help groups, farmer collectives, and village-level committees through mobile apps ensure participatory land restoration.

### Conclusion

Achieving **Land Degradation Neutrality by 2030** is both an **ecological necessity** and a **socio-economic imperative for India**. By prioritizing holistic and inclusive approaches, India can ensure a sustainable future, balancing environmental restoration with economic growth. This mission not only safeguards natural resources but **also empowers rural communities, enhances agricultural productivity**, and positions India as a global leader in combating desertification.