

OPEN ECOSYSTEMS - ENVIRONMENT

NEWS: Why must India recognise its open ecosystems?

WHAT'S IN THE NEWS?

What Are Open Ecosystems?

- **Definition:** Open ecosystems include **grasslands, scrublands, savannas, deserts, and open woodlands** – landscapes with low tree cover but high ecological and socio-cultural value.
- **Climatic Adaptation:** These biomes are naturally open due to **arid climates, seasonal rainfall, or edaphic (soil-related)** factors — not due to deforestation or degradation.
- **Distinct from Forests:** They are **not degraded forests**; rather, they are **separate ecological systems** with unique evolutionary histories and functions.

Misclassification as 'Wastelands': A Colonial and Policy Problem

- **Colonial Legacy:** British-era land surveys often labeled **non-agricultural and non-forested lands** as “wastelands” — a term that persists today.
- **Scale of Mislabeling:**
 - **55.76 million hectares** (~17% of India's land area) are labeled as **wastelands** in official records (Wasteland Atlas of India).
 - This includes **deserts, scrublands, grasslands, and coastal sand dunes** — all functional ecosystems.
- **Ecological Reality vs Policy Perception:**
 - Label: “Land to be fixed” → Reality: “Land to be stewarded”
 - Contradiction: Urban policies praise open ‘green spaces’ (e.g., gated communities with lawns), but rural open ecosystems face neglect or conversion.

Ecological and Cultural Importance of Deserts and Open Lands

A. Global Importance

- **Coverage:** Deserts alone make up **~33% of Earth's land surface**.
- **Historical Relevance:** Cradles of early civilizations like the **Indus Valley, Mesopotamia**, and others.

- **Biodiversity & Resilience:** These ecosystems support **drought-resilient flora and fauna** adapted to harsh climates — crucial for climate resilience.

B. Indian Examples

- **Thar Desert (Rajasthan):**
 - Hosts species like the **Great Indian Bustard (critically endangered)**, **caracal**, **desert fox**, and various reptiles.
- **Banni Grasslands (Gujarat):**
 - Once among **Asia's largest grasslands**; now degraded due to **afforestation** and **invasive species** (like *Prosopis juliflora*).

4. Role of Pastoralist Communities: Ecological Stewards

- **Key Pastoralist Groups:**
 - *Dhangars* (Maharashtra), *Rabaris* (Gujarat), *Kurubas* (Karnataka), *Raikas* (Rajasthan)
- **Population:** Over **13 million pastoralists** depend on open landscapes for **seasonal grazing**.
- **Ecological Contributions:**
 - **Rotational grazing** aids **natural regeneration** and **soil health**.
 - **Seed dispersal** and **fertilization** through animal movement.
 - Sustains **biodiversity** and **landscape heterogeneity**.
- **Threats:**
 - **Afforestation efforts** that plant trees in grasslands.
 - **Fencing of commons**, denying access to traditional grazing routes.

The Greenwashing Trap: Why Afforestation ≠ Restoration

- **Monoculture Afforestation Risks:**
 - Destroys **native biodiversity** by replacing natural grasses with alien trees.
 - Disrupts **local hydrology** and **groundwater recharge** patterns.
 - **Carbon Trade-Off:** Converts **carbon-rich soils** (grasslands) into **carbon-poor plantations**.

- Invasive species like **Prosopis juliflora** and **eucalyptus** degrade soil and ecology.
- **Alternative Restoration Methods:**
 - **Rotational and seasonal grazing** systems.
 - **Natural regeneration** using local flora.
 - **Check dams, bunding, and water harvesting** suited to dryland topographies.
 - **Community-led governance** using traditional ecological knowledge.

Policy Recommendations: Towards Recognition and Regeneration

Policy Priority	Recommendation
Land Reclassification	Replace the colonial term “wasteland” with “open ecosystem” in all official land-use records.
Tenure Security	Legally recognize community land rights of pastoralists and nomadic tribes.
Carbon Incentives	Provide payments for soil carbon storage , not just tree-based carbon sequestration.
Local Knowledge	Empower indigenous water and land management systems in dryland governance.
Global Narratives	Rebrand days like “World Day to Combat Desertification” as “World Day to Combat Land Degradation” to remove stigma from deserts.

Bottom Line: Rethinking Development and Climate Policy

- **Ecological Reality:** Open ecosystems are **alive, biodiverse, and climate-resilient**, not empty or barren.
- **Justice-Based Conservation:** Protecting deserts and grasslands also protects **livelihoods, cultural heritage, and climate stability**.
- **Smart Environmentalism:** Moving beyond tree-centric policies towards **biome-appropriate** land stewardship is essential for **inclusive and sustainable development**.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/why-must-india-recognise-its-open-ecosystems-explained/article69808268.ece>