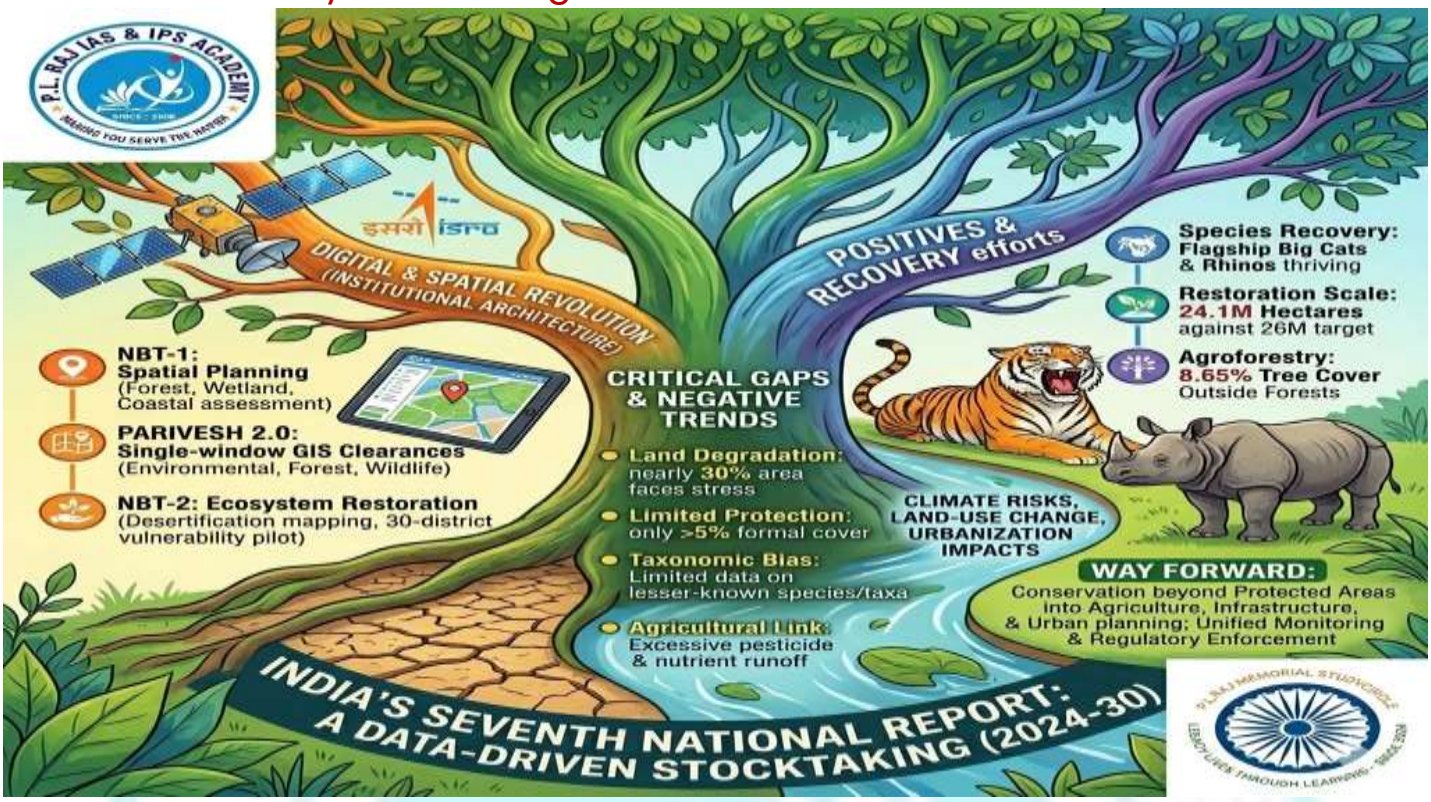
India's Biodiversity Stocktaking.



Introduction

As the global community races toward the 2024–2030 deadline for environmental targets, India has submitted its Seventh National Report to the Convention on Biological Diversity (CBD). This document serves as the first comprehensive assessment of India's progress since the adoption of the Kunming-Montreal Global Biodiversity Framework (KMGBF) in 2022. For UPSC aspirants, this report is a vital resource, as it bridges the gap between international commitments and domestic implementation, reflecting India's shift toward a data-driven, institutional approach to conservation.

Significance of the Report

The Seventh National Report is not merely a data sheet; it is a strategic audit of India's biological wealth.

1. **Alignment with Global Goals**- It aligns India's updated National Biodiversity Strategy and Action Plan (2024-30) with global targets, featuring a monitoring system with 142 indicators mapped to 23 National Biodiversity Targets (NBTs).
2. **Institutional Maturation-** It highlights the transition from traditional conservation to a sophisticated architecture involving remote sensing, GIS, and single-window regulatory platforms.
3. **Baseline for 2030-** It provides the "mid-term" reality check required to adjust policies before the end of the decade.

Key Findings- The Digital and Spatial Revolution

India has leveraged its space-age capabilities to monitor the earth.

1. **Spatial Planning (NBT-1)-** Led by ISRO, India's remote-sensing programs allow for large-scale assessments of forests, wetlands, and coastal ecosystems. This technology supports "area-based conservation planning," ensuring that protection is not just on paper but verified by satellite data.
2. **Streamlined Governance-** The PARIVESH (and now PARIVESH 2.0) platform has integrated forest, wildlife, and environmental clearances into a single-window GIS-based system. This ensures technological efficiency matches regulatory oversight.

3. **Ecosystem Restoration (NBT-2)-** ISRO's Space Applications Centre has mapped land degradation across multiple time periods. A pilot assessment across 30 districts integrated socioeconomic and soil data to identify high-risk areas for restoration.

Positive vs. Negative Developments- A Balanced View

The Positives (The "Green" Shoots)

1. **Restoration Scale-** India reports that 24.1 million hectares have been restored or are under restoration, nearing the target of 26 million hectares.
2. **Flagship Success-** High-profile species, including big cats (Tigers, Leopards) and Rhinos, show a steady recovery, showcasing the success of project-based conservation.
3. **Agroforestry-** Trees outside forests now cover about 8.65% of India's geographical area, contributing significantly to the total green cover and carbon sequestration.

The Negatives (The "Red" Flags)

1. **The Restoration Gap-** Despite massive efforts, nearly 30% of India's geographical area continues to face land degradation.
2. **Limited Protection-** Only a little over 5% of India's land is under formal protection, which is significantly lower than the global "30x30" ambition (protecting 30% of land by 2030).
3. **Taxonomic Bias-** While big cats are thriving, the report offers limited data on lesser-known species and other taxa (insects, fungi, etc.), making it hard to judge overall ecosystem health.
4. **Agricultural Stress-** Excessive pesticide use and nutrient runoff remain major concerns in agricultural ecosystems.

Critique of Methods and Assessments

While the report is a leap forward, it faces certain "methodological hurdles"-

1. **Fragmented Data-** Data collection systems remain fragmented across different departments, leading to non-standardized indicators.
2. **Regulatory Weakness-** Much of the biodiversity loss occurs *outside* protected areas—in regions of infrastructure expansion and urbanization—where regulatory oversight is significantly weaker.
3. **Climate Intersection-** The report struggle to fully disentangle biodiversity loss from climate-related events, which are compounding existing stresses like land-use change.

Way Forward

To move from "monitoring" to "thriving," India must adopt a multi-sectoral approach-

1. **Beyond Protected Areas-** Conservation must move into agriculture, infrastructure, and urban planning.
2. **Standardizing Data-** Establishing a unified national biodiversity database to remove fragmented collection systems.
3. **Strengthening Enforcement-** Monitoring systems must be backed by strict regulatory enforcement, especially in non-protected areas.
4. **Mainstreaming Biodiversity-** Environmental risks must be treated as food security and livelihood risks, ensuring that the MSME and manufacturing sectors are also incentivized to adopt biodiversity-friendly practices.

Conclusion

The Seventh National Report portrays India as a nation with a "first-world" digital monitoring architecture but "developing-world" ecological stresses. While the recovery of flagship species and the success of PARIVESH are commendable, the 30% land degradation figure is a stark reminder of the work ahead. To meet the 2030 goals, India must ensure that its technological efficiency is translated into on-

ground enforcement, protecting the "lesser-known" majority of its biodiversity with the same zeal it shows for its big cats.

GS Mains Practice Question

"India's Seventh National Report to the CBD reflects a shift toward data-driven environmental governance. Critically analyse the findings of the report with special emphasis on the challenges in achieving National Biodiversity Targets by 2030." (35 words)

Answer Guidelines

Introduction- Mention the context of the Seventh National Report and its alignment with the Kunming-Montreal Framework (KMGBF).

Body

Paragraph 1 (Technological Strength)- Discuss ISRO's role, GIS-based spatial planning, and the PARIVESH 2.0 platform.

Paragraph 2 (Findings & Challenges)- Contrast the success of flagship species and agroforestry with the 30% land degradation rate and limited data on lesser-known taxa.

Paragraph 3 (Regulatory Gaps)- Address the weakness of oversight outside protected areas and the impact of infrastructure expansion.

Conclusion- Summarize the need for mainstreaming biodiversity into urban and agricultural planning to ensure long-term food and livelihood security.