

Keralam's First Ecosystem Red List Assessment Project

Prelims: Current events of national and international importance | Environment

Why in News?

Recently, the Keralam has launched India's first Ecosystem Red List Assessment project to evaluate the risk of ecosystem collapse across the State.

Keralam's First Ecosystem Red List Assessment Project	
Feature	Details
 State	Keralam (Kerala)
 Nodal agency	Kerala State Biodiversity Board (KSBB)
 Implementing institutions	Kerala Forest Research Institute (KFRI) and Centre for Ecology, Taxonomy, Conservation and Climate Change at MES Asmabi College
 Duration	One year
 Coverage	All 14 districts of Keralam
 Framework	IUCN Red List of Ecosystems (RLE)
 Main objective	Assess ecosystem collapse risks and promote landscape-level conservation.

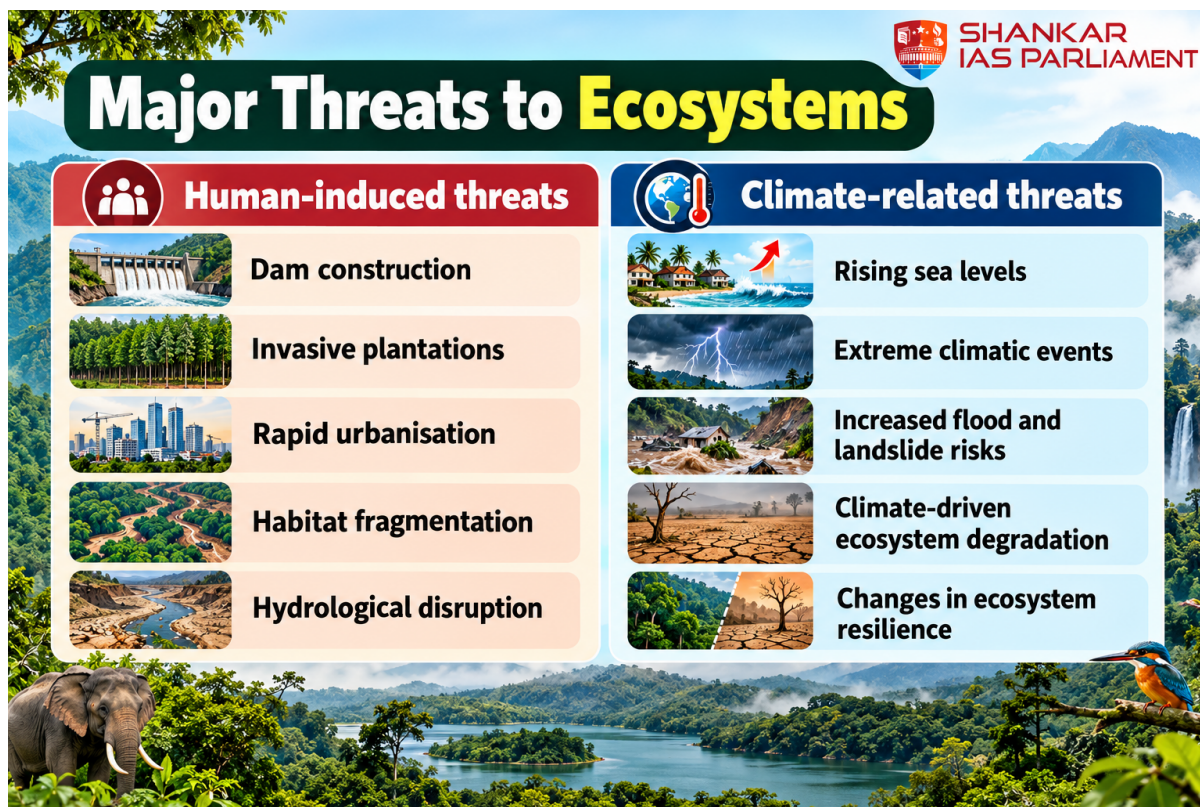
Objectives

- Transition from species-focused conservation approaches to strategies that encompass entire ecosystems.
- Conduct scientific assessments to evaluate the risk of ecosystem collapse throughout the State.
- Document historical patterns of ecosystem loss, habitat fragmentation, and hydrological disruption.
- Identify threats to natural habitats arising from both climatic and anthropogenic factors.
- Establish a scientific baseline to inform ecosystem restoration and promote sustainable development.

Key Ecosystems Evaluated in the Assessment

The assessment examines natural habitats located in mountainous, midland, and coastal regions.

- **Tropical riparian evergreen forests** - These forests, which are associated with riverbanks and river systems in the southern Western Ghats, have experienced an estimated 83% reduction in extent over the past century.
- **Myristica swamps** - These freshwater swamp ecosystems are recognized for their unique biodiversity.
- **Shola-grassland mosaics** - These are high-altitude ecosystems characteristic of the Western Ghats.
- **Coastal mangroves** - These ecosystems play a critical role in coastal protection and support significant biodiversity.
- Other habitats assessed include additional forests, river systems, and coastal belts.



IUCN Red List of Ecosystems (RLE) Framework

- The project uses the International Union for Conservation of Nature (IUCN) Red List of Ecosystems framework.
- It evaluates ecosystems against five standardised criteria to assess their risk of collapse.

IUCN Red List of Ecosystems (RLE) Framework SHANKAR IAS PARLIAMENT		
The five criteria are:		
Criterion	Focus area	Description
A Reduction in geographic distribution 	Decline in spatial extent	Measures the decline in the spatial extent of the ecosystem.
B Restricted geographic distribution 	Limited spatial distribution	Assesses limited spatial distribution and the risks associated with such restriction.
C Environmental degradation 	Deterioration of abiotic environmental components	Evaluates the deterioration of abiotic environmental components.
D Disruption of biotic processes and interactions 	Alterations in ecological processes	Examines alterations in ecological processes and biotic relationships.
E Quantitative analysis of ecosystem collapse risk 	Probability of ecosystem collapse	Involves estimating the probability of ecosystem collapse using quantitative methods.

Note - The IUCN Red List of Ecosystems assesses the risk of ecosystem collapse, whereas the IUCN Red List of Threatened Species assesses the extinction risk of species.

Anticipated Outcomes

- **Official Risk Register** - Systematic identification and documentation of ecosystems at risk.
- **Ecosystem Typology Atlas** - Comprehensive scientific classification and spatial mapping of ecosystem types.
- **Eco restoration Priority Maps** - Delineation of areas prioritized for urgent ecological restoration.
- **Integration with State Planning Portals** - Application of scientific data to inform development and conservation planning.

Significance

- **Evidence-based conservation** - Establishes a scientific baseline to assess and monitor ecosystem degradation.
- **Climate adaptation** - Facilitates the implementation of nature-based solutions for addressing climate change.
- **Disaster risk reduction** - Contributes to the reinforcement of natural barriers that mitigate floods and landslides.
- **Decentralised governance** - Delivers actionable information to Biodiversity Management Committees (BMCs) and local panchayats.
- **Sustainable development** - Facilitates the integration of ecological considerations

into local development planning.

- **Community-led restoration** - Advances Keralam's objective of becoming a biodiversity-friendly state.

Reference

[The Hindu | Keralam's First Ecosystem Red List Assessment Project](#)

