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Q17

Examine the status of forest resources of India and its resultant impact on climate change.

UPSC Civil Services Mains 2020 · GS I · 15 marks · Natural Resources and Industries

Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).

Core demand of the question

- Examine the status of forest resources of India and its resultant impact on climate change
- Keep a 15-mark length

Revision summary

ISFR cover looks moderate; dense natural forest is uneven and under pressure.

Northeast, Ghats, and Himalaya hold most of the real climate forest.

FRA tenure and diversion politics shape what actually stands.

Loss turns a sink into emissions and worsens local flood-drought-fire.

Quality of forest, not only percentage, decides the climate result.

Introduction

India's recorded forest and tree cover is a little over one-fifth of the land in **ISFR**-type accounting, but dense natural forest is thinner, uneven, and under pressure. Forests are a carbon sink and a climate shield. Degradation turns them into a carbon source and a hotter, drier local climate.

Body

Status of the resource

- **Geographic imbalance:** dense cover in the Northeast, **Western Ghats**, and pockets of the Himalaya and Central Indian belt; the plains and western drylands are tree-poor.
- **Quality gap:** rising 'tree cover' can be plantations, coconut, and social forestry while old-growth and biodiversity fall. Open forest and scrub are not the same climate asset as a rainforest.
- **Drivers of loss:** linear projects, mining, encroachment, fire, grazing, and invasive species. Legal diversion under forest law continues even as national targets speak of more green.
- **Forest Rights Act, 2006** recognised community rights; implementation is patchy, yet excluding people has also failed. Status must be read as ecology plus tenure.
- Community and sacred groves, **CAMPA** money, and Green India Mission are the official repair kit, with mixed delivery.

Resultant climate impact

- Standing forests store carbon in biomass and soil; felling and fire release it and cut future sequestration, working against **NDC forestry** pledges.
- Western Ghat and Himalayan forests regulate monsoon orography, landslides, and glacier-fed catchment humidity; loss worsens both flood and drought locally.
- Northeast degradation plus jhum gone wrong can raise emissions and silt; well-managed jhum and community forest can do the opposite.
- Urban heat and Gangetic dryness grow when city lungs and ravine forests go. Climate change then feeds back as more fire and pest, a loop.
- Plantation of a single exotic is a weak sink and a weak adaptation tool compared with mixed native forest.

Examine, do not only lament

- India can still use FRA-plus-science community forestry, landscape restoration, and less rubber-stamp diversion to keep forests as a net sink.
- Climate policy that only counts canopy percentage will miss the quality that actually cools and stores.

Flow diagram

Natural dense forest -> Carbon sink
Degradation diversion fire -> Emissions heat
FRA community community -> Natural dense forest
Plantation count -> Weak climate asset

Conclusion

Forest resources are regionally rich and qualitatively stressed. Their climate role is sink, sponge, and monsoon ally. Degradation and fake greening weaken that role. FRA-respecting restoration of natural forest, not only tree numbers, is the climate-relevant status India needs.

Facts & figures

ISFR

India State of Forest Report series that maps forest and tree cover by density class.

FRA 2006

Forest Rights Act recognising individual and community forest rights.

CAMPA

Compensatory afforestation funds, often criticised when plantations replace ecosystems.

Western Ghats

Biodiversity forest that also orographically shapes monsoon and carbon stores.

NDC forestry

India's climate pledge that relies in part on additional forest and tree carbon.

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