

Forest and Wildlife

These notes are your ultimate revision weapon to revise Forest and Wildlife. We've distilled years of previous exam questions (PYQs) into one powerful, concise resource. Everything you need to know, nothing you don't.

- **PYQs, Decoded:** All key concepts from past exams, organized and simplified.
- **Revise in Record Time:** Short, precise, and designed for last-minute review.
- **Focus on What Matters:** Master high-probability topics and boost your confidence.

I. International Days & Themes

- **International Day of Forests (2018):** Theme was "Forests and Sustainable Cities".
- **World Wildlife Day:** Observed on 3rd March.

II. Forest Types, Characteristics & Geography

A. Global Forest Types

- **Equatorial Forests:**
 - Tall, closely set trees with crowns forming a continuous canopy.
 - High biodiversity with a large number of co-existing species.
 - Presence of numerous epiphytes (plants that grow on other plants).
- **Tropical Moist Forests:** Have the greatest diversity of plants and animals.
- **Tropical Deciduous Forests:** Most extensive in Asia.
- **Amazon Rainforest:** Known as the "lungs of the planet Earth".

B. Indian Forest Geography

- **Western Ghats:** The region has evergreen forests.
- **West Coast:** Has the maximum tree cover in India.
- **Rajasthan:** Districts like Jaisalmer, Jodhpur, Alwar, and Jaipur have the minimum very dense forest area.
- **Eastern Deccan Plateau:** Characterized by dry deciduous forests.

C. Mangrove Forests in India

- **Primary Area:** Sundarbans.
- **Second-Largest Area:** Coast of Odisha.
- **Other Areas:**
 - Goa has a protected mangrove region.
 - Andaman and Nicobar Islands have a combination of mangrove, evergreen, and deciduous forests.
- **Role:** Act as a safety hedge against tsunamis and cyclones by preventing uprooting with their extensive root systems.
- **Threat:** Deforestation in coastal areas (e.g., Mahanadi delta, Odisha) increases vulnerability to cyclones.

D. Specific Trees and Flora

- **Red Sanders:** A tree species found only in a part of South India, but not in tropical rainforest areas.
- **Teak:** Dominant tree species in Tropical moist deciduous forests.
- **Taxus (Himalayan Yew):**
 - Naturally found in the Himalayas.
 - Endangered species (IUCN Red Data Book).
 - Source of the cancer drug 'Taxol'.
- **Eucalyptus:** Generally not considered eco-friendly in India due to high water consumption.
- **Bamboo:**
 - Omitted from the definition of trees in the Indian Forest (Amendment) Act, 2017, when grown in non-forest areas.

- Classified as a Minor Forest Produce under the Forest Rights Act, 2006.
- **Himalayan Flora:** Oak and Rhododendron grow naturally in the temperate forests of the Himalayas (e.g., Uttarakhand).

III. Forest Cover in India

A. Overall Coverage

- Forest area is approximately **21-25%** of India's total geographical area.
- Dense forests constitute about **10-12%**.
- The **minimum recommended** forest cover for ecological balance is **33%**.

B. State-wise Coverage

- **Largest Forest Area:** Madhya Pradesh has the largest area under forests.
- **High Tribal Forest Cover:** Mizoram has the maximum number of tribal districts with high forest cover (ISFR 2019).
- **Ascending Order of Forest Cover %:** Maharashtra → Madhya Pradesh → Chhattisgarh → Odisha.
- **Uttar Pradesh (2011):** Recorded forest area was ~7% of its total geographical area.
- **Descending Order of Forest Cover %:** Manipur > Odisha > Maharashtra > Haryana.

C. Causes of Forest Loss & Threats

- **Main Causes:** Agricultural Development, Industrial Development, River Valley projects, and Road Development.
- **Demographic Factor:** Loss of forest cover is directly associated with the Demographic Transition and is negatively related to population growth.

- **Specific Issue in Nagaland:** Mountains are becoming barren mainly due to shifting cultivation.

IV. Wildlife & Biodiversity in India

A. Key Species and Facts

- **Endangered Species:** Gharial, Leatherback turtle, Swamp deer, Elephant, Crocodile.
- **Scientific Names:**
 - Asiatic Wild Ass: *Equus hemionus*
 - Barasingha: *Cervus duvauceli*
 - Chinkara: *Gazella bennettii*
 - Nilgai: *Boselaphus tragocamelus*
- **Unique Breeds:** Kharai camel (Gujarat) - a swimming camel that grazes on mangroves.
- **Species Found in India:** Star Tortoise, Monitor Lizard, Pygmy Hog.
- **Species Not Native to India:** Spider Monkey.
- **Gharials:** Found in plenty in the Ganga River.
- **India's Global Share:** Accounts for about 8% of the world's wildlife.
- **India's Largest Fish:** Whale Shark.

B. Causes of Wildlife Extinction

- Major causes: Loss of natural habitat, illegal commercial trade, and the fast pace of human population growth.

V. Conservation & Management in India

A. Legislation & Acts (Chronological Order)

1. **Water (Prevention and Control of Pollution) Act, 1974**
2. **Wildlife Protection Act, 1972:**
 - **Schedule I:** Provides the highest level of protection (e.g., tiger, tortoise).
 - **Schedule VI:** Requires a license to cultivate the listed plant species.

- **Animals that cannot be hunted:** Include Gharial, Indian wild ass, and Wild buffalo.
- 3. **Forest (Conservation) Act, 1980**
- 4. **Air (Prevention and Control of Pollution) Act, 1981**
- 5. **Environment (Protection) Act, 1986:**
 - Empowers the government to lay down standards for pollutants and state requirements for public participation.
- 6. **Biological Diversity Act, 2002**
- 7. **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (Forest Rights Act):**
 - Legally incorporates the definition of "Critical Wildlife Habitat".
 - Grants ownership rights of Minor Forest Produce (MFP) to forest dwellers.
 - Habitat rights can be granted to PVTGs (Baigas were among the first).

B. Policies & Programs


- **National Forest Policy, 1988:**
 - Aims to bring **33%** of India's land area under forest/tree cover.
 - Emphasizes afforestation, social forestry, and public participation.
 - Encourages wood substitutes and alternative fuels.
- **National Forestry Action Programme:** Aims to bring **33%** of India's area under tree/forest cover.
- **Project Tiger:** Launched in **1973**.
- **Project Elephant:** Launched in **1991-92** as a centrally sponsored scheme, addresses man-animal conflict and concerns both wild and captive elephants.
- **New Forest Inventory Design (2016):** Reduced revisit time for forest assessment to 2 years.

C. Institutions & Bodies

- **Forest Research Institute (FRI):** Located in Dehradun.

- **Indian Council of Forestry Research and Education (ICFRE):** Headquarters in Dehradun.
- **National Tiger Conservation Authority (NTCA):** A statutory body.
- **National Afforestation and Eco-Development Board (NAEB):** Set up in **1992**.
- **Animal Welfare Board of India:** Established under the Prevention of Cruelty to Animals Act, 1960.
- **National Ganga River Basin Authority:** Chaired by the Prime Minister.
- **National Bureau of Plant Genetic Resources:** Located in New Delhi.
- **National Research Centre for Agroforestry:** Located in Jhansi.

D. Conservation Movements & Awards

- **Chipko Movement:** Against deforestation; leaders: Sundarlal Bahuguna and Chandi Prasad Bhatt.
- **Raini Village Movement (Chamoli):** Against deforestation; led by Gaura Devi. 
- **Gond and Korcu Communities:** Participate in a month-long festival of planting fruit-bearing tree saplings.
- **Rajiv Gandhi Wildlife Conservation Award:** Given to institutions, officers, and conservationists.
- **Amrita Devi Smriti Award:** Given for the protection of forests and wildlife.

VI. International Context & Concepts

A. Global Conservation

- **World Tiger Summit, 2010:** Held in St. Petersburg, Russia.
- **SAVE (Saving Asia's Vultures from Extinction):** Association launched by India and Nepal.
- **WWF (World Wide Fund for Nature):** Established in **1961**; symbol is the Giant Panda.

- **TRAFFIC:** An NGO (not a UNEP bureau) that monitors trade in wild species.
- **Country with the Highest Forest Cover %:** Suriname.
- **Japan** has a higher forest cover % than China, India, and Indonesia.
- **Bhutan:** Constitutional commitment to maintain at least 60% forest cover.

B. Conceptual Facts

- **Forests** are a renewable resource and enhance environmental quality.
- **Natural Resources:** Exist in a region and can be used in the future; their development depends on technology and cost.
- **Impacts of Deforestation:**
 - Drying of water sources in the Himalayas.
 - Loss of biodiversity.
 - Soil erosion.
 - *Note: Urbanization is not a direct impact of deforestation.*
- **Desert Plant Adaptations:** Hard/waxy leaves, tiny leaves, and thorns instead of leaves to inhibit water loss.
- **Aluminium:** Called a "green metal" as it can substitute wood, aiding forest conservation.
- **Unique Natural Formations:** 'Living root bridges' are found in Meghalaya.
- **Specialized Plantation City:** Valparai (Tamil Nadu) for tea and coffee.
- **Pugmark Technique:** Used for estimating the population of wild animals.
- **Eco-region Description:** Monoculture, deforestation for palm cultivation, and destruction of mangroves best describe the **Andaman and Nicobar Islands**.

Know More About Forest and Wildlife:

- [Forest and Wildlife – Old Year Questions](#)
- [Forest and Wildlife One Liner Questions & Answers](#)