



PBR and Biodiversity Management in India

For Prelims: [People's Biodiversity Register \(PBR\)](#), [Biodiversity Management Committees \(BMC\)](#), [Biological Diversity Act 2002](#), [Lifestyle for the Environment](#), [Convention on Biological Diversity \(CBD\)](#), [Nagoya Protocol](#).

For Mains: Status of Biodiversity Management in India.

Why in News

The **National Campaign for Updation and Verification of [People's Biodiversity Register \(PBR\)](#)** was launched in **Goa**, marking a significant milestone in the **documentation and preservation of [India's rich biological diversity](#)**. It was organised by the Union Ministry of Environment, Forest and Climate Change.

- Till now, **2,67,608 PBRs** have been prepared in the country.

What is the People's Biodiversity Register?

▪ About:

- The **People's Biodiversity Register** serves as a **comprehensive record of various aspects of biodiversity**, including **conservation of habitats, preservation of land races, folk varieties, and cultivars**, domesticated stocks and breeds of animals, and micro-organisms.
- **Biodiversity Management Committees (BMC)** are created as per the **Biological Diversity Act 2002** for promoting conservation, sustainable use, and documentation of biological diversity.
 - Local bodies in the states and union territories constitute **BMCs, which are entrusted with the preparation of People's Biodiversity Registers** in consultation with local communities.

▪ Importance:

- It helps in conserving biodiversity, which is key to maintaining balance in nature. It also enables local communities to share the benefits derived from **genetic resources and associated traditional knowledge**.
- It supports the **implementation of the provisions of the Biological Diversity Act 2002**, which aims to **regulate access to biological resources** and ensure fair and equitable benefit sharing.
- Being a **bottom-up exercise**, it is also a means of understanding the **overlap of cultural and natural biodiversity**.
 - It envisages a **decentralised way through an inclusive approach**.
- It aligns with the concept of **"Lifestyle for the Environment (LiFE)"**, introduced by the Indian Prime Minister at **COP26 in Glasgow**.
 - This concept calls upon **individuals and institutions globally to promote mindful and deliberate utilisation of resources** to protect and preserve the environment.

What is the Status of Biodiversity Management in India?

- **About:**
 - With only **2.4% of the earth's land area**, India accounts for **7-8% of the world's recorded species**.
 - **4 of the world's 36 [biodiversity hotspots](#) are located in India:** The **Himalayas, Western Ghats, Indo-Burma area, and Sundaland**.
 - Two of these, the **Indo-Burma area and Sundaland, are distributed throughout South Asia** and are not precisely contained within India's formal borders.
- **Biodiversity Governance in India:**
 - **India's Biological Diversity Act (BDA) 2002**, is in close synergy with the **[Nagoya Protocol](#)** and aims to implement provisions of the **[Convention on Biological Diversity \(CBD\)](#)**.
 - The **Nagoya Protocol sought to ensure commercial and research utilisation of genetic resources** led to sharing its benefits with the government and the community that conserved such resources.
 - The BDA was **hailed as an important step towards preserving India's vast biodiversity**, as it recognised the **sovereign right of countries over its natural resources**.
 - It seeks to address issues of managing **bio-resources in the most decentralised manner possible**.
 - It also envisages three layered structures:
 - **The National Biodiversity Authority (NBA) at the national level.**
 - **The State Biodiversity Boards (SBBs) at the state level**
 - **Biodiversity Management Committees (BMCs) at the local level.**
 - The act also **strengthens the country's stand with respect to anyone claiming an intellectual property right over biodiversity-related knowledge**.
- **Challenges related to Biodiversity Conservation:**
 - **Introduction of Invasive Species:** [Invasive alien species](#) include **plants, animals and pathogens** that are non-native to an ecosystem cause environmental harm or **adversely affect ecological balance**.
 - According to CBD reports, invasive alien species have contributed to nearly **40% of all animal extinction**.
 - **Global Warming and Climate Change:** It poses threats to plant and animal species as many organisms are **sensitive to carbon dioxide concentration** in the atmosphere that may lead to their disappearance.
 - Use of **pesticide, rise of tropospheric ozone, sulphur and nitrogen oxides from industries** also contribute to the degradation of natural ecosystems.
 - **Choking Marine Biodiversity:** Due to **lack of efficient [plastic waste](#) management**, **microplastics** are getting dumped into oceans choking and starving marine life and causing liver, reproductive, and gastrointestinal damage in animals and directly impacting marine biodiversity.
 - **Genetic Modification Concern:** Genetically modified plants impose high **risks to the disruption of ecosystem and biodiversity** because the better traits produced from engineering genes can result in the favouring of one organism.
 - Hence, it can **eventually disrupt the natural process of gene flow and affect the sustainability of indigenous variety**.

What is the Convention on Biological Diversity (CBD)?

- The Convention on Biological Diversity (CBD) was negotiated and signed by nations at the **[Earth Summit at Rio de Janeiro in Brazil on June 5, 1992](#)**.
 - The convention came into force on **December 29, 1993**. **India became a party to the convention on February 18, 1994**. At the present, there are **196 Parties to this Convention**.
- CBD is a legally binding treaty and has 3 main objectives:
 - Conservation of biodiversity.
 - Sustainable use of the components of biodiversity.

- Fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.
- The **Secretariat of the CBD is based in Montreal, Canada.**

Way Forward

- **Community-led Conservation:** There is a need to **engage local communities, including indigenous peoples, in the conservation efforts.** Encourage their active participation by involving them in decision-making processes, establishing community-managed conservation areas, and recognizing their traditional knowledge and practices related to biodiversity conservation.
- **Technology and Data-driven Conservation:** There is a need to utilise emerging technologies such as **remote sensing, drones, and [artificial intelligence](#) to monitor and track biodiversity changes, identify high-priority conservation areas,** and assess the effectiveness of conservation interventions.
- **Protecting Entire Biosphere: Conservation should not be limited to the species level but should be about the conservation of the entire ecosystem,** including the local communities.
 - **India needs more [biosphere reserves](#) to protect biodiversity and ensure sustainability of the ecosystem.**

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q1. Two important rivers - one with its source in Jharkhand (and known by a different name in Odisha), and another, with its source in Odisha - merge at a place only a short distance from the coast of Bay of Bengal before flowing into the sea. This is an important site of wildlife and biodiversity and a protected area. Which one of the following could be this? (2011)

- (a) Bhitarkanika
- (b) Chandipur-on-sea
- (c) Gopalpur-on-sea
- (d) Simlipal

Ans: (a)

Q2. With reference to India's biodiversity, Ceylon frogmouth, Coppersmith barbet, Gray-chinned minivet and White-throated redstart are (2020)

- (a) Birds
- (b) Primates
- (c) Reptiles
- (d) Amphibians

Ans: (a)

Mains

Q. How does biodiversity vary in India? How is the Biological Diversity Act, 2002 helpful in the conservation of flora and fauna? (2018)

Source: PIB

PDF Refernece URL: <https://www.drishtias.com/printpdf/pbr-and-biodiversity-management-in-india>

