

Q2. Convention on Biological Diversity (CBD) — For Earth-science students

(a) Objectives of the CBD (3 marks)

Short answer (3 marks)

The CBD has three primary objectives:

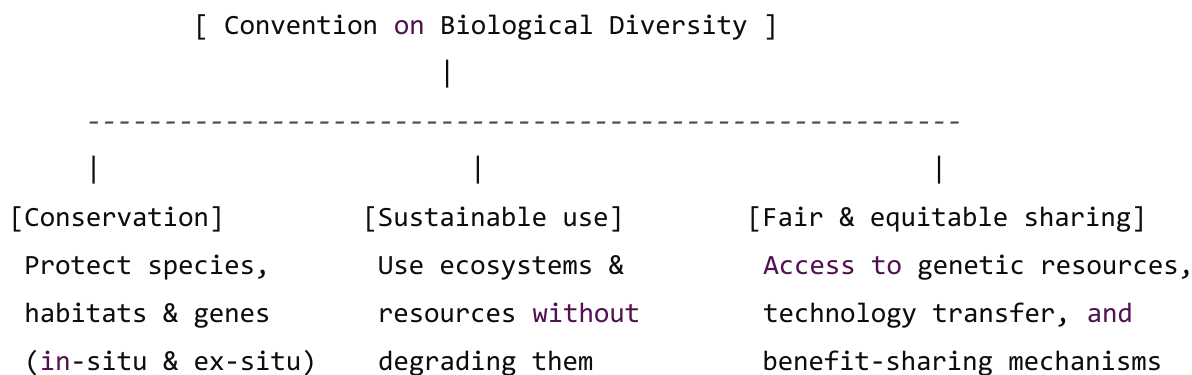
1. **Conservation of biological diversity** — protect ecosystems, species and genetic variation.
2. **Sustainable use of its components** — use biodiversity so that it is not permanently lost (e.g., sustainable fisheries, forestry).
3. **Fair and equitable sharing of benefits** arising from the use of genetic resources (including appropriate access to those resources, transfer of technology and benefit-sharing).

[Convention on Biological Diversity](#)

Why these matter for Earth science students (brief)

These objectives link ecological theory (what to conserve), applied Earth-system management (how to use resources without collapsing systems) and socio-economic policy (who benefits from genetic resources / traditional knowledge).

Schematic (visual summary of the three objectives)



(b) Key provisions & commitments under the Convention (4 marks)

Overview (4 marks — expanded)

The CBD is a legally binding framework that asks Parties (countries) to take national and international actions to meet its objectives. Major provisions and commitments include:

- **National strategies and plans (Article 6):** Parties must prepare and implement **National Biodiversity Strategies and Action Plans (NBSAPs)** and mainstream biodiversity into sectoral policies (agriculture, water, energy). [Convention on Biological Diversity](#) +1
- **Identification, monitoring & research (Articles 7 & 12):** Parties agree to identify important species/habitats, set up monitoring and support research and training. [Convention on Biological Diversity](#)

- **In-situ and ex-situ conservation (Articles 8 & 9):** Measures to conserve ecosystems and maintain genetic resources (protected areas, sustainable management, botanical/zoological collections). [Convention on Biological Diversity](#)
- **Sustainable use (Article 10):** Encourage practices that allow continuing use of biodiversity (e.g., sustainable harvesting, agro-ecological practices). [Convention on Biological Diversity](#)
- **Access & Benefit-Sharing (ABS) (Article 15) and the Nagoya Protocol:** Access to genetic resources is regulated and benefits from their use must be shared fairly (Nagoya Protocol operationalizes ABS). [Convention on Biological Diversity](#) +1
- **Biosafety (Cartagena Protocol):** Safe handling of living modified organisms (LMOs) to protect biodiversity and human health. [bch.cbd.int](#)
- **Technology transfer & financial resources (Articles 16 & 20):** Parties should cooperate on technology transfer and provide financial resources (especially to developing countries) for implementation. [Convention on Biological Diversity](#)
- **Clearing-House Mechanism & reporting (Article 18 & Article 26):** Information exchange (global and national CHMs), and periodic national reporting to the CBD Conference of the Parties (COP). [Convention on Biological Diversity](#) +1

How this translates into action (examples)

- Produce an NBSAP that sets national targets and policies.
- Create legally protected areas and manage them.
- Regulate access to biological samples and negotiate benefit-sharing agreements with local communities.
- Use the CHM and ABS Clearing-House to share data and track permits/agreements.

[Convention on Biological Diversity](#)

Schematic (flow of key provisions → national action → outcomes)

[CBD (global treaty)]



(CHM = Clearing-House Mechanism; ABS = Access & Benefit-Sharing)

(c) India's role in implementing CBD measures (3 marks)

Short answer (3 marks, elaborated)

- **Party & megadiverse country:** India is a Party to the CBD and is recognized among the world's **mega-diverse** countries; it harbours a large share of global species and several biodiversity hotspots. This global status gives India a strong responsibility in CBD implementation. [Convention on Biological Diversity](#)
- **Domestic legislation — Biological Diversity Act (2002):** To implement CBD obligations India enacted the **Biological Diversity Act, 2002** and accompanying Rules; the Act created the **National Biodiversity Authority (NBA)** to oversee access, benefit-sharing and approvals. [nbaindia.org](#)
- **Decentralized institutions & participatory tools:** India set up **State Biodiversity Boards (SBBs)** and local **Biodiversity Management Committees (BMCs)**; BMCs prepare **People's Biodiversity Registers (PBRs)** to document local species and traditional knowledge and to enable community participation in ABS. [nbaindia.org](#) +1
- **International engagement:** India has actively participated in CBD decision-making (for example, hosting CBD COP-11 in Hyderabad in October 2012) and is updating its national plans (NBSAPs) to align with global frameworks such as the Kunming-Montreal Global Biodiversity Framework. [Convention on Biological Diversity](#) [nbaindia.org](#)

Practical examples for Earth-science students

- When studying habitat change, use India's NBSAP and PBR data as sources for local biodiversity trends.
- Analyze how the Biological Diversity Act influences bioprospecting, specimen collection permits and research collaborations.

Schematic (India: CBD → national instruments → local action)

[CBD obligations]

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India (Party & megadiverse)

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Biological
Diversity

Act **2002**

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National
Biodiversity
Strategy (NBSAP)

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International
(COPs, treaties)

NBA (**National**) → SBBs (State) → BMCs & PBRs (**Local**)

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Regulation of access, benefit-sharing, documentation, conservation measures