Environment & Ecology · GS - III

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

EXAM YEAR	PAPER	SUBJECT
2018	GS - III	Environment & Ecology

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Biogeographic diversity; Himalayas; Western Ghats; forests and wetlands; endemic species; Biological Diversity Act, 2002; access and benefit sharing; conservation institutions

Model Answer

Introduction

India is a megadiverse country with varied climates, landscapes and ecosystems. Its biodiversity ranges from Himalayan alpine habitats and tropical rainforests to deserts, wetlands, grasslands and marine ecosystems.

Variation in Biodiversity

1. **Himalayas:** Altitudinal variation supports alpine plants, temperate forests and specialised wildlife.
2. **Western Ghats:** Tropical forests contain high levels of endemism and many threatened species.
3. **North-east India:** High rainfall and forest cover support diverse plants, mammals, birds and amphibians.
4. **Deserts and grasslands:** Adapted species survive under arid conditions and in open ecosystems.
5. **Wetlands and coasts:** Rivers, mangroves, estuaries and coral reefs support aquatic and marine biodiversity.
6. **Islands:** The Andaman and Nicobar Islands host distinctive terrestrial and marine species.

Role of the Biological Diversity Act, 2002

The Act provides a framework for conserving biodiversity, promoting sustainable use and ensuring equitable sharing of benefits arising from biological resources and associated knowledge.

- **National Biodiversity Authority (NBA):** Regulates specified access to biological resources and associated knowledge under the Act.
- **State Biodiversity Boards:** Regulate relevant commercial utilisation by Indian entities in accordance with statutory provisions.
- **Biodiversity Management Committees (BMCs):** Enable local participation in biodiversity management.
- **People's Biodiversity Registers:** Document local biological resources and associated knowledge.
- **Access and benefit sharing:** Provides for sharing benefits with communities and knowledge holders where applicable.
- **Conservation support:** Encourages sustainable use and recognition of traditional knowledge.

Limitations

Enforcement gaps, habitat loss, inadequate local capacity and conflicts over access and benefit-sharing can weaken conservation outcomes.

Conclusion

India's ecological diversity demands region-specific protection. Effective implementation of the Biological Diversity Act, supported by habitat conservation and community participation, can safeguard biodiversity for future generations.

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