## Cold Desert Declared India's 13th UNESCO Biosphere Reserve

- UNESCO declared the Cold Desert Biosphere Reserve in Himachal Pradesh as India's 13th UNESCO Biosphere Reserve.
- Global Network: Added to the World Network of Biosphere Reserves (WNBR), which now has 785 sites worldwide.
- Significance: First high-altitude cold desert Biosphere Reserve (BR) of India.

#### 2. Location & Geography

- State: Himachal Pradesh (Trans-Himalayan region, Spiti Valley).
- Total Area: 7,770 km<sup>2</sup>.
- Altitude Range: 3,300 6,600 m above sea level.
- Landscape features:
  - Windswept plateaus
  - Rugged high-altitude cold deserts
  - Glacial valleys
  - Alpine lakes
- Protected Areas Included:
  - Pin Valley National Park
  - Chandratal & Sarchu
  - Kibber Wildlife Sanctuary

#### 3. Biodiversity Significance

#### **Flora**

732 vascular plant species.

- 30 endemics (found only here).
- 157 near-endemics of Indian Himalayas.

#### Fauna (Iconic species)

- Snow Leopard (Panthera uncia)
- Himalayan Ibex (Capra sibirica)
- Blue Sheep (Bharal) (Pseudois nayaur)
- **Himalayan Wolf** (Canis lupus chanco)
- **Himalayan Snowcock** (*Tetraogallus himalayensis*)
- Golden Eagle (Aquila chrysaetos daphanea)

Acts as a critical habitat for high-altitude and endangered species.

#### 4. Human & Cultural Aspects

- **Population**: ~12,000 inhabitants in scattered villages.
- Livelihoods:
  - Traditional pastoralism
  - Yak & goat herding
  - Barley and pea farming
  - Tibetan herbal medicine
- Cultural Practices:
  - Strong Buddhist monastic traditions.
  - Community councils (local governance) regulate use of fragile alpine resources.
- Represents a balance between cultural heritage & fragile ecosystem management.

#### 5. Importance of Designation

- Conservation: Protects one of the world's coldest and driest ecosystems.
- Sustainability: Supports eco-friendly livelihoods of local communities.
- **Symbolic Value**: Reflects India's commitment to conservation + sustainable development.
- Learning Site: Serves as a "learning place for sustainable development" under UNESCO's MAB Programme.

#### 6. UNESCO's Man and the Biosphere (MAB) Programme

- Launched: 1971 (celebrated 50 years in 2025).
- **Objective**: Build scientific basis for improving relationships between people & environment.
- Approach: Combines natural & social sciences.
- Functions of Biosphere Reserves:
  - 1. **Conservation** → Biodiversity & cultural heritage.
  - 2. **Development** → Eco-friendly socio-economic growth.
  - 3. **Logistic Support** → Research, education, monitoring, conflict resolution.
- Purpose: Provide local solutions to global environmental challenges.

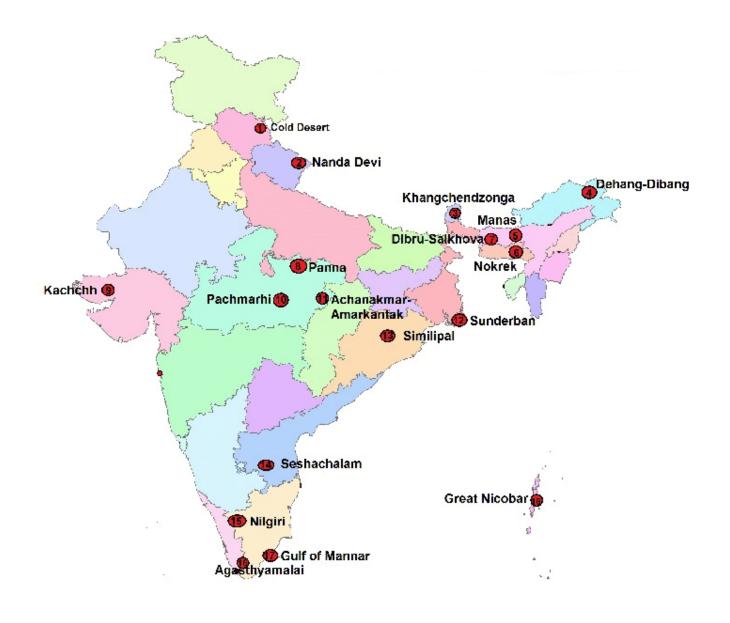
# 7. About the 5th World Congress of Biosphere Reserves (WCBR)

- Largest & most influential conference under MAB Programme.
- Participants: 3,000+ delegates from 100+ countries.
- First time in Asia (earlier held in Europe/Americas only).
- **Significance**: Strengthens global inclusivity of the programme.

### 8. India's UNESCO-Recognized Biosphere Reserves (13)

- 1. Nilgiri (1986)
- 2. Nanda Devi (1988)

- 3. Nokrek (1988)
- 4. Gulf of Mannar (1989)
- 5. Sundarbans (1989)
- 6. Similipal (2009)
- 7. Pachmarhi (2009)
- 8. Achanakmar-Amarkantak (2012)
- 9. Great Nicobar (2013)
- 10. Agasthyamala (2016)
- 11. Khangchendzonga (2018)
- 12. Panna (2020)
- 13. Cold Desert (2025)



#### Map shows the list of 18 Biosphere Reserves in India

#### 9. UPSC Relevance

- **Prelims**: Location, features, flora/fauna, UNESCO recognition, WNBR numbers.
- Mains (GS-III: Environment):
  - Role of Biosphere Reserves in conservation & sustainable development.
  - Integration of local communities in conservation efforts.
- Essay / Ethics: Example of "harmony between people and nature".

#### ☐ Summary in One Line:

The Cold Desert Biosphere Reserve of Himachal Pradesh, covering Pin Valley NP and adjoining areas, is India's 13th UNESCO Biosphere Reserve—marking the nation's first high-altitude cold desert reserve, combining biodiversity conservation with community-based sustainable practices under UNESCO's MAB Programme.

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