Biosphere Reserves

Why in news?

It is important to reflect on the progress made in conserving and sustainably using the biosphere reserves.

What is a Biosphere Reserve?

- It is an international designation for representative parts of *natural and cultural landscapes* extending over large area of terrestrial or coastal/marine ecosystems or a combination thereof.
- BRs are living examples of how human beings and nature can co-exist while respecting each other's needs.
- **Designated by-** United Nations Educational, Scientific and Cultural Organization (UNESCO)
- **Supported by** - Other UN agencies and International Union for Conservation of Nature (IUCN)
- **Function**
    - *Conservation* of biodiversity and cultural diversity
    - *Economic development* that is socio culturally and environmentally sustainable
    - *Logistic support* underpinning development through research, monitoring education and training

World Biosphere Reserve Day is celebrated on November 3 to raise awareness on the importance of biosphere reserves and to promote their conservation and sustainable use.

What is the criteria for designating biosphere reserves?

- The site must contain an *effectively protected and minimally disturbed core area* of value of nature conservation.
- The core area should be typical of a *bio-geographical unit* and large enough to *sustain viable populations* representing all trophic levels in the ecosystem.
- The management authority to ensure the *cooperation of local communities* while managing and containing the conflicts.
- Areas potential for *preservation of traditional tribal or rural modes of living* for harmonious use of environment.

What are World Network of Biosphere Reserves (WNBR)?

According to UNESCO, there are currently 748 biosphere reserves across 134 countries, including 22 transboundary sites.

- The WNBR of the MAB Programme consists of a dynamic and interactive network of sites of excellence.
- **Launch year-**1971
- **Aim**- To establish a scientific basis for the improvement of relationships between people and their environments.
- **Role** - It proposes interdisciplinary research, demonstration and training in natural resources management.
- It helps national governments with the planning and implementation of research and training programmes with technical assistance and scientific advice.
- **Picture of WNBR**
  - **Leading WNBR country** - Spain, with 53 properties
  - **1st biosphere reserve in South Asia** - Hurulu Biosphere Reserve, Sri Lanka.
  - **No Biosphere Reserves** - Bangladesh, Bhutan, and Nepal
  - **India-** Signatory to the landscape approach supported by UNESCO's MAB programme

What is the status of biosphere reserves in India?

- **Status-** There are 18 biosphere reserves in India, out of which 12 are recognized internationally under the MAB programme.
- **UNESCO Michel Batisse Award 2023-** It is won by ***Gulf of Mannar*** for introducing the concept of 'plastic checkpoints'.
- **1st biosphere reserve** - Nilgiri Biosphere Reserve , Tamilnadu, Kerala, Karnataka
- **Largest Biosphere reserve** - Great Rann of Kutch, Gujarat
- **Smallest biosphere reserve** - Dibru- Saikhowa, Assam

How significant are biosphere reserves?

- **Testing sites**- They are sites for testing the approaches to manage changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity.
- **Restoration-** Any damaged ecosystems and habitats are repaired properly through the establishment of biosphere reserves.
- **Land use planning**- Various groups of people work together to find comprehensive land management solutions.
- **Community engagement**- In the Sundarbans Biosphere Reserve in India, local communities are working together to manage mangrove forests and protect the biodiversity of the region.
- **Conservation**- Preservation of species, ecosystems, genetic diversity, and landscapes without affecting the living beings that inhabit them.

- **Healthy Ecosystems**- Natural problems such as soil erosion, water springs, and soil quality should be monitored and protected on a regular basis.
- **Education and Research**- Information about conserving, restoring, and developing ecosystems is provided, as well as steps to recreate landscapes affected by human activities.
- **Provides habitat**- They are home to a wide variety of ecosystems from tropical rainforests to alpine deserts, and provide home to countless unique and endangered plants and animals species.
- **Carbon sink**- They have become crucial in our fight against climate change, as these areas are home to many of the world's carbon sinks helping to absorb carbon dioxide from the atmosphere.

South and Central Asian Biosphere Reserve Network Meeting (SACAM)
• In partnership with the Ministry of Environment, Forests and Climate Change and the National Centre for Sustainable Coastal Management, 10th SACAM was concluded in Chennai, India. • **Theme**- "Ridge to Reef" • **Role-** A platform for exchanging knowledge and fostering collaborations in the realm of sustainable environmental practices.

References

1. The Hindu- Biosphere Reserves are evolved as pocket of hope
2. UNESCO- Man and Biosphere Program

SHANKAR IAS PARLIAMENT
Information is Empowering