



## General Studies-3; Topic: Conservation, environmental pollution and degradation

### Nature-based solutions to fight Climate Change

#### Introduction

- Nature-based solutions refer to a collection of actions and policies that harness the power of nature to protect and restore ecosystems.
- It involves **conserving, restoring or better managing ecosystems to remove carbon dioxide from the atmosphere.**
- **Forests** are probably the most well-known nature-based solution for climate change, but there are many more - including **peatlands, mangroves, wetlands, savannahs, coral reefs and other landscapes.**

#### Why is it important?

- Our planet is facing a **dual climate and biodiversity crisis.**
- Around a million animal and plant species are now threatened with extinction - more than ever before in human history.
- At the same time, the **climate emergency** threatens to expose millions of people to extreme heat waves and could leave a billion people affected by sea-level rise within decades.
- Nature-based solutions can **transform our energy, land, urban and industrial systems.**
- It is required to **protect and enhance biodiversity.**

#### Regenerative farming

- An essential example for nature-based solution is regenerative farming, which **works to harness the power of nature rather than depleting it.**

- **Regenerative farming improves soil health** – and healthy soil is the biggest carbon pool on the planet.
- A regenerative practice called **agroforestry** – not only increases carbon storage, but it also creates a protective canopy that helps to regulate temperature and humidity, boost biodiversity and improve productivity.

### Progress of NbS in some countries

- **Argentina** launched the **Forest AR2030**. The initiative aimed to restore two million hectares of forested land.
- **China** has been aggressively pursuing the NbS since the 1998 mass flooding. They have **planted trees on a massive scale** to reduce the flood runoff and established the **sponge cities project** to develop better urban centres.
- **Italy** has developed an instrument through which local enterprises and firms can decrease their carbon footprint by paying for local afforestation and contributing to the community's environmental and social benefits.
- **The United States** is pursuing the agenda of NbS, which has also been included in **hazard mitigation plans**.

### How Nature based Solutions can benefit India

- **India can potentially leverage these global practices and harness multiple benefits** by implementing NbS.
- Planting mangroves can play a crucial role in **climate-proofing India's coastal cities**.
- NbS can be an effective tool in **mitigating urban heat island problems**, urban flooding and poor air quality to develop resilient cities.

### Concerns / Challenges

- **Finance** around nature-based solutions is still not adequate. Much more investment is needed to unlock the full potential of it.
- Much of the world still seems to favour **destruction for short term gains** over the longer-term benefits of sustainable management.
- There is **limited technical expertise** within governments to identify nature-based solutions targets in order to integrate them into development strategies.

### Way Forward

- Promoting nature-based solutions and prioritizing actions that could have climate benefits.
- Need to **increase investment in high-quality nature-based solutions**.
- Advocating for **policy changes** and the increased inclusion of nature-based solutions for climate in national climate targets.
- **Global standards for nature-based solutions** like those developed by the IUCN are key to advancing a rigorous, consistent and accountable framework for implementation.
- To ensure long-term resilience, projects involving nature-based solutions should adhere to four high-level principles.
  - Nature-based solutions are not an alternative to decarbonization;
  - They need to involve a wide range of ecosystems;
  - They should be designed in partnership with local communities while respecting Indigenous and other rights; and
  - They must support biodiversity, from the level of the gene to the ecosystem.
- **The world must invest now in nature-based solutions that are ecologically sound, socially equitable and designed to pay dividends over a century or more.**