



Preservation of Sundarban

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Discovery India and **World Wide Fund (WWF)** India have partnered with the **Government of West Bengal** and local communities in the **Sundarban** to help save the world's only mangrove **tiger habitat**.

- They are working with a vision to create **climate-smart villages** in the Sundarbans. **Climate Smart Villages** are sites where farmers, researchers, local government and the private sector come together to understand which climate smart agriculture practices are best suited for a particular location.
- The project will **use technology** to solve several of the issues faced in the region. This includes building datasets on impacts of climate change on estuarine ecosystem. Through this project, in partnership with the West Bengal Forest Directorate and **Indian Institute of Science Education and Research(IISER) Kolkata**, two Sundarbans ecological observatories will be set up, each featuring data loggers, monitoring buoys and an onsite laboratory.
- **Farmland productivity:** The initiative also focuses on enhancing farmland productivity through low-cost measures and adjusting crop calendars to deal with climate change.
- The initiative will also include work towards securing habitats for tigers and prey species.
- The project at Sundarbans is part of a global movement, **Project CAT (Conserving Acres for Tigers)**, aimed at building healthy habitats for Tigers by conserving six million acres of protected land across four countries.

Project CAT (Conserving Acres for Tigers)

- **Discovery Communications** is working with World Wildlife Fund and others to support a worldwide effort to **double the number of tigers in the wild by 2022**.
- It is a mission to ensure a future for tigers and other endangered wildlife by conserving nearly a million acres of protected land on the border of India and Bhutan.

- Tigers face multiple threats from **poaching, habitat loss and fragmentation, conflict with humans and overhunting** of their prey species.
- As a large predator, tigers are an umbrella species. They play a key role in maintaining a healthy ecosystem.
 - By protecting tigers and their habitat, the others risk animals that share this habitat, like Asian elephants, greater one-horned rhinos, clouded leopards and important prey species are also getting protected.

Umbrella Species and Keystone Species

- **Umbrella Species** are species that are selected for conservation-related decisions because the conservation and protection of these species indirectly affect the conservation and protection of other species within their ecosystem.
- Umbrella species help in the selection of potential reserve locations, as well as the determination of the composition of the reserve.
- These species usually have a large area requirement for which the conservation of the species extends the protection to other species sharing the same habitat.
- Umbrella species are representative of other species in their habitat since they are known species, and they also determine the area of conservation.
 - For example:** The protection of the Bay checkerspot butterfly automatically leads to the protection of the grassland while the conservation of the Amur tiger in the Russian Far East also means automatic conservation and protection of the deer and boar in their habitat.
- A **keystone species** is an organism that helps define an entire ecosystem. Without its keystone species, the ecosystem would be dramatically different or cease to exist altogether.
- Keystone species have low functional redundancy.
 - This means that if the species were to disappear from the ecosystem, no other species would be able to fill its ecological niche.
 - The ecosystem would be forced to radically change, allowing new and possibly invasive species to populate the habitat.
- Any organism, from plants to fungi, may be a keystone species; they are not always the largest or most abundant species in an ecosystem.

The Sundarbans Mangrove Forest

- The Sundarbans mangrove forest, one of the largest such forests in the world, lies across India and Bangladesh on the delta of the **Ganges, Brahmaputra and Meghna rivers** on the Bay of Bengal.
- It is adjacent to the border of India's Sundarbans **World Heritage site inscribed in 1987.**

- The site is intersected by a complex network of tidal waterways, mudflats and small islands of salt-tolerant **mangrove forests**, and presents an excellent example of ongoing ecological processes.
- The area is known for its wide range of fauna, including 260 bird species, the Bengal tiger and other threatened species such as the estuarine crocodile and the Indian python.

It is home to many rare and globally threatened wildlife species such as the estuarine crocodile, Royal Bengal Tiger, Water monitor lizard, **Gangetic dolphin**, and **olive ridley turtles**.

Source: HBL