Big Cats Challenge in India

This editorial is based on **Big concerns over big cats** which was published in The Hindu on 02/08/2023. It talks about the conservation of tigers and related issues.

India's sprawling landscapes are graced by the **presence of majestic big cat species,** each embodying power, grace, and an integral part of the nation's natural heritage. From the **Royal Bengal tiger** that prowls through dense forests to the elusive **snow leopard** that leaves its mark in the high Himalayas, these apex predators are not just emblematic of India's biodiversity, but also guardians of the delicate ecological balance. Recognizing the urgent need for their protection, India pioneered a visionary initiative known as **Project Tiger in 1973**, marking a crucial step in the conservation of big cats and their habitats.

The **Management Effectiveness Evaluation (MEE) of tiger reserves in India, 2022 (Fifth Cycle)** report for **Indian** tiger reserves prepared by the **Wildlife Institute of India** and the **National Tiger Conservation Authority** revealed a mixed picture of **progress and challenges.** Concerns are emerging as **India's wild tiger population has increased to a healthy 3,167 from just 1,400 in 2006**, prompting discussions about the nation's forest capacity to sustain these numbers.

What is Project Tiger?

- **About:**
    - Project Tiger is a tiger conservation programme launched on **April 1, 1973,** by the Government of India.
- **Objectives:**
    - Reduce factors that lead to the depletion of tiger habitats and to mitigate them by suitable management.
    - The damages done to the habitat shall be rectified to facilitate the recovery of the ecosystem to the maximum possible extent.
    - Ensure a viable tiger population for economic, scientific, cultural, aesthetic and ecological values.

What are the Benefits of Project Tiger?

- **Tiger Population Recovery:**
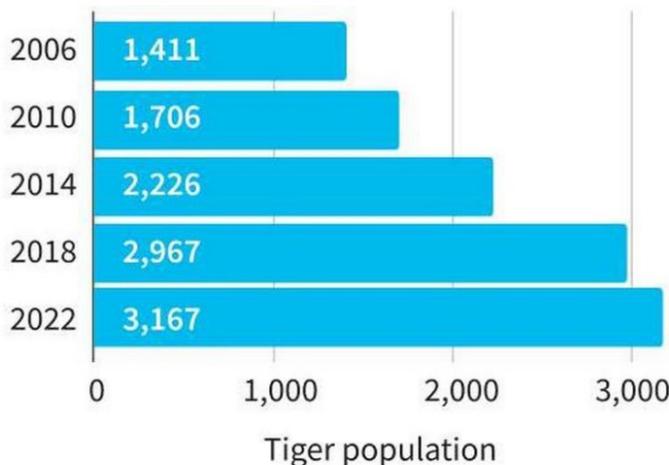   - One of the primary objectives of Project Tiger was to **reverse the declining trend** of the

tiger population.
- Through dedicated conservation efforts, the project has successfully increased the number of tigers in designated tiger reserves across the country.
  - This increase in population **not only preserves the species itself but also contributes to the overall health** of the ecosystem.

- **Habitat Preservation:**
  - Project Tiger emphasizes the protection of tiger habitats, which has a **positive ripple effect** on the entire ecosystem.
  - By safeguarding these landscapes, the project **indirectly benefits a wide range of flora and fauna** that depend on these habitats for survival.
    - This contributes to maintaining biodiversity and ecological balance.
- **Economic Value and Tourism:**
  - Tigers are charismatic megafauna that attract tourists from around the world. The project's success in conserving tiger populations has led to **an increase in eco-tourism, generating revenue for local communities** and the country.
    - This economic benefit helps incentivize local communities to participate in conservation efforts.
- **Ecological Balance:**
  - Tigers are apex predators that play a crucial role in maintaining the balance of their ecosystems.
  - By **controlling prey populations, they prevent overgrazing** and help manage the health of herbivore species.
    - This, in turn, has cascading effects on vegetation and other animal populations, contributing to a healthier ecosystem.
- **Protection of Keystone Species:**
  - Tigers are considered keystone species, as their presence or absence can dramatically affect the structure of their ecosystems.
  - By protecting tigers, Project Tiger **indirectly safeguards a host of other species** that are interconnected within the food web.
    - This helps maintain the overall stability of the ecosystem.

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Big cat count

According to the data released by the PM, the number of tigers in India increased by 200 in the past four years. A look at the tiger population

Year	Tiger population
2006	1,411
2010	1,706
2014	2,226
2018	2,967
2022	3,167

Tiger population

Steady rise: A tiger at Van Vihar National Park in Bhopal on Sunday. PTI

What are the Challenges of Project Tiger?

- **Habitat Loss and Fragmentation:**
  - Rapid **urbanization, infrastructure development,** and agricultural expansion have led to habitat loss and fragmentation.
    - This poses a significant threat to tigers by reducing their living spaces.
- **Human-Wildlife Conflict:**
  - As tiger habitats shrink and human populations expand, instances of human-tiger conflicts have risen.
  - Tigers may **attack livestock or even humans, leading to retaliatory killings** and negative perceptions about tiger conservation. Balancing the needs of local communities and tiger conservation is a delicate challenge.
- **Poaching and Illegal Wildlife Trade:**
  - Despite conservation efforts, poaching remains a critical issue. **Demand for tiger body parts,** driven by **traditional medicine and illegal trade,** continues to threaten the species.
  - Effective enforcement against poachers and traffickers is essential to curb this illegal activity.
- **Lack of Connectivity between Habitats:**
  - Isolated tiger populations in fragmented habitats **face genetic bottlenecks and reduced genetic diversity.**
  - Establishing corridors to connect these populations is crucial for maintaining genetic health and allowing tigers to move freely between areas.
- **Climate Change Impact**:
  - Changing climatic conditions can alter tiger habitats and prey availability, impacting their survival.
  - Project Tiger **must incorporate climate resilience strategies** to adapt to these changes and ensure the long-term survival of tigers and their ecosystems.
- **Limited Community Participation:**
  - Involving local communities in conservation efforts is vital for success. However, limited community engagement and benefits from tiger reserves **can lead to resistance and lack of support** for conservation initiatives.
- **Conflict between Conservation and Development:**
  - Balancing conservation goals with development projects, such as **dams or roads, can lead to conflicts.**
  - Ensuring sustainable development that **considers both human needs and environmental conservation** is a delicate task.

What are the Concerns about India's Forest Capacity Reaching its Limit to Support Tigers?

- **Roaming Outside Protected Areas:**
  - Almost **30% of the tiger population roams outside protected areas** and regularly **enters human habitations,** leading to human-tiger conflicts.
- **Shrinking Tiger Corridors:**
  - The construction of **linear infrastructure, such as railway lines, highways, and canals**, has resulted in the **shrinking of tiger corridors,** essential patches that connect two large forest areas.
- **Foraying into Human-Dominated Landscapes:**
  - Tigers are believed to **leave forests in search of herbivores** that increasingly venture into human-dominated landscapes.
  - This behaviour is driven by the takeover of **natural flora by invasive species like lantana,** which **disrupts the natural ecosystem** and forces herbivores to seek food in areas inhabited by humans.
- **Carrying Capacity:**
  - With the **increasing tiger population**, questions arise about whether India's forests are nearing their carrying capacity to sustain these apex predators.
- **Inequitable Population Distribution:**
  - While India has **53 tiger reserves spread over 75,000 sq km, just 20 reserves cover one-third of the area for tiger conservation**, leading to inequitable population

distribution.
- **Human-Tiger Conflict:**
  - Emergent conflicts have been addressed through compassionate yet unscientific solutions, such as feeding and rescuing incapacitated wild tigers, artificially enriching tiger habitats, and translocating "problem" tigers.

What are the Conservation Efforts of Big Cats in India?

- **Project Lion:**
  - To conserve the critically endangered Asiatic lion, Project Lion was launched, primarily focusing on the **Gir Forest National Park in Gujarat.**
  - This initiative emphasizes **habitat management, scientific research, anti-poaching** measures, and community participation. It aims to ensure a sustainable and growing population of Asiatic lions.
- **Project Leopard:**
  - Considering the widespread distribution of leopards and their adaptable nature, Project Leopard **focuses on studying and conserving these elusive predators.**
  - It involves monitoring leopard **populations, mitigating human-leopard conflicts, and preserving their habitats** through a mix of protected areas and corridors.
- Snow Leopard **Conservation:**
  - India's Himalayan landscapes are home to the elusive snow leopard. Conservation efforts include **habitat protection, community engagement, research, and anti-poaching measures.**
  - Collaboration with neighbouring countries and international organizations helps in **safeguarding this high-altitude predator.**
- **Cheetah Reintroduction Project:**
  - India has reintroduced the cheetah, an extinct species, in its original habitat. This initiative involves selecting **suitable areas, restoring ecosystems, and addressing potential challenges** in reintroducing and maintaining a viable cheetah population.
- **Legislation and Policy Framework:**
  - Wildlife protection acts, like the **Wildlife Protection Act of 1972,** provide the **legal foundation for conserving big cats.** These laws regulate hunting, poaching, and trade in wildlife and their derivatives.

What Should be the Way Forward?

- **Strengthening Habitat Protection and Restoration:**
  - Identify and **protect critical tiger habitats** from further **encroachment, ensuring adequate space for population** growth and genetic diversity.
  - Invest in habitat restoration efforts, including reforestation and removal of invasive species, to create resilient and interconnected ecosystems.
- **Enhancing Anti-Poaching Measures:**
  - Strengthen law enforcement through **modern technology, intelligence networks,** and rapid response teams to curb poaching and wildlife trafficking.
  - Implement **stringent penalties for offenders** and work collaboratively with international partners to dismantle illegal wildlife trade networks.
- **Promoting Sustainable Human-Wildlife Coexistence:**
  - Develop and implement **community-based conservation models** that engage local communities in conservation efforts, provide alternative livelihoods, and reduce human-wildlife conflicts.
  - Employ innovative technologies such as early warning systems to **minimize human-tiger conflicts and enhance safety** for both humans and animals.
- **Integrating Climate-Resilient Strategies:**
  - Develop climate adaptation plans within tiger reserves to mitigate the impacts of climate change on tiger habitats and prey availability.
  - Establish **buffer zones that can serve as refuges for wildlife** during extreme weather

events.

- **Addressing Carrying Capacity Concerns:**
  - Conduct comprehensive studies to assess the carrying capacity of India's forests and ensure that the current and future tiger populations remain sustainable.
  - Prioritize the creation and restoration of tiger corridors to facilitate genetic exchange and enable tigers to thrive.

Drishti Mains Question:

Discuss the challenges and prospects of conserving India's big cat species with a special focus on the role and effectiveness of Project Tiger.

UPSC Civil Services Examination Previous Year's Question (PYQs)

Prelims:

Q. Among the following Tiger Reserves, which one has the largest area under "Critical Tiger Habitat"? (2020)

(a) Corbett
(b) Ranthambore
(c) Nagarjunasagar-Srisailam
(d) Sundarbans

Ans: (c)

- Critical Tiger Habitats (CTH), also known as core areas of tiger reserves, are identified under the Wild Life Protection Act, 1972 based on scientific evidence that "such areas are required to be kept as inviolative for the purpose of tiger conservation, without affecting the rights of the Scheduled Tribes or such other forest dwellers".
- The CTHs are notified by the state government in consultation with the expert committee constituted for the purpose.
- Area of the Core/Critical Tiger Habitat
  - **Corbett (Uttarakhand): 821.99 sq. Kms**
  - **Ranthambore (Rajasthan): 1113.36 sq. Kms**
  - **Sundarbans (West Bengal): 1699.62 sq. Kms**
  - **Nagarjunsagar Srisailam (part of Andhra Pradesh): 2595.72 sq. Kms**
- **Therefore, option (c) is the correct answer.**

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