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Project Tiger- Conservation of Tigers

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Why in News: To commemorate 50 years since Project Tiger, a landmark conservation programme to save Indian tigers from extinction, Prime Minister Narendra Modi inaugurated an International Big Cat Alliance conference in Mysuru where he also revealed that India had a minimum of 3,167 tigers as per the latest count (2022)

About Project Tiger

Project Tiger began in 1973 and was premised on creating enabling wildlife protection laws, expanding the number of tiger reserves and, garnering public support and assistance from forest dwelling communities to create conditions that would enable the cat to move unfettered.

Apart from increasing the number of protected reserves, it also entailed creating corridors that enabled movement between them.

From nine reserves covering 18,278 square km in 1973, India now has 53 reserves covering 75,796 sq. km, which is roughly 2.3% of India's land area.

At present there are five major 'tiger-landscapes' that have evolved: Shivalik-Gangetic plains; Central India and Eastern Ghats; Western Ghats, North Eastern Hills and Brahmaputra Flood Plains and, the Sundarbans Landscapes function as biological units wherein tiger populations can share common individuals, a common gene pool, and potentially disperse between populations.

Since 2006, a census is carried out every four years to estimate populations in these landscapes as well as determine whether they continue to provide salubrious conditions for the animal to thrive.

Not all landscapes are equal, with some having better conditions and tiger numbers and others not having enough prey. Every four years, a report, called the 'Status of Tigers' is published by the National Tiger Conservation Authority (NTCA) laying out this information

About Tiger census

Tiger Census is an elaborate exercise that involves laying out camera traps to photograph the presence of tigers and other wildlife.

There are also forest officials who conduct physical surveys to spot tigers and results of camera traps and such physical surveys are combined via modelling by scientists at the Wildlife Institute of India (WII), an autonomous Environment Ministry body, to calculate tiger populations in these landscapes.

In their four-year estimates, the scientists provide a range of the estimated tiger population, and the mean value is highlighted as the latest tiger population. For instance, in 2018, the tiger population was a minimum of 2,603 and a maximum 3,346 with a mean value of 2,967.

Though the survey and data gathering, for the latest cycle, was completed in 2022 some analysis is pending due to which NTCA has only publicised the lowest bound of animals present based on the number of unique tigers

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photographed via camera traps.

This year, 3080 unique tigers were photographed; in the last survey of 2018, 2,461 such tigers were clicked though the computed total was 2,967.

Importance of Tiger reserve

Tigers are the top predators in their ecosystems and maintain the ecological balance. Their habitats overlap with watersheds that supply water to our cities.

Tiger habitats include forests that capture carbon dioxide from the air and help fight climate change, and some, such as mangrove forests, protect coastal communities from the fury of storms.

Tiger reserves are often treasure troves of medicinal plants and natural resources that sustain local communities and provide them with means of livelihood.

Securing the future for tigers is about so much more than just one species; it's for the well-being of millions of people and the health of our planet.

Status of health of tiger reserves

Since 1973, when Project Tiger was established, the number of dedicated tiger reserves has grown from nine reserves covering 18,278 square km to 53 reserves spanning 75,796 square km, which is roughly 2.3% of India's land area.

As per latest tiger census, India hosts close to 75% of the world's tiger population, and its conservation success evidenced by increasing tiger numbers from 1,411 in 2006 to at least 3,167 presently without relying on fenced reserves is seen as a global model worth emulating

Population increase was "substantial," the report said, in Shivalik and the Gangetic flood plains which is followed by Central India, North Eastern Hills and Brahmaputra flood plains and Sundarbans while in the Western Ghats, the tiger population has reduced.

There were 804 unique tigers photographed in the Shivalik-Gangetic plains, which is higher than the estimated population of 646 in 2018.

The Central Indian landscape has witnessed an increase in tiger population, with 1,161 unique tigers being photographed compared to an estimated population of 1,033 in 2018.

Tigers have reportedly occupied new areas in Madhya Pradesh and Maharashtra. In 2018, the Sundarbans population was estimated to be 88, whereas in 2022, images of 100 tigers were captured.

The population is "steady, with a limited potential to extend its range," the reports say, though the tigers face threats from forest exploration, fishing, palm and timber extraction, and the expansion of waterways

The current estimate also does not give numbers on the proportion of tigers outside protected areas, which are a growing number and a key marker of the environmental threats as well as man-animal conflicts.

However, the authors of the census report warn that nearly all of the five major tiger-zones face challenges to the growth of the tiger population due to the increasing demands from infrastructure development.

Status of tiger conservation in Western Ghats

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The great concern, however, is the Western Ghats. The protected areas within the Western Ghats are some of the most biodiverse in the country.

As of 2018, the tiger population here was estimated at 981. In 2022, 824 unique tigers were recorded, pointing to a decline in some regions.

While tiger populations within protected areas have either remained stable or increased, tiger occupancy outside of these regions has significantly decreased in areas like the Wayanad landscape, BRT Hills, and the border regions of Goa and Karnataka.

The Mookambika-Sharavathi-Sirsi landscape and Bhadra have also experienced a substantial decline in tiger occupancy.

Beyond the protected area border of the Anamalai-Parambikulam complex, a decrease in tiger occupancy was also observed.

Although tiger populations in the Periyar landscape was stable, tiger occupancy outside has decreased. Local extinctions of tiger populations were noticed in Sirsi, Kanyakumari, and Srivilliputhur

Causes of local declines in Western Ghats

India's tiger population annually grows at about 6% an annum with high mortality rates among cubs. Apart from natural mortality, the other causes are threats from invasive species, man-animal conflict, infrastructure development that impedes movement of the animal, disease, poaching and many reserves not having sufficient prey to sustain viable populations.

While the quadrennial surveys since 2006 have always recorded a rise in numbers: 1,411 in 2006 to 3,197 in 2022, critics have raised questions on the methods employed in estimation.

The criticisms levelled so far have ranged from fundamental mathematical flaws, design deficiencies and manipulation of photographic data, and a total lack of transparency in data-sharing with independent scientists capable of reliably reviewing the analyses and results to be drivers for local extinctions

There were also accusations, in the 2018 survey, that many photographed tigers were double counted.

Though scientists from the WII have countered these claims, there hasn't yet been an alternate estimation of India's tiger numbers nor any move from the NTCA-WII to accommodate changes in the way tigers are counted.

The way ahead

Following the translocation of cheetahs from Africa, India is now looking at international initiatives to translocate tigers into other locations. It is in talks with Cambodia, where the tiger has gone extinct due to poaching, to create a suitable habitat there and ship a few tigers from India to revive the big cat's population in that country.