Project Tiger @50: Success but at what cost?

Published : Apr 20, 2023 11:00 IST - 14 MINS READ

RAJKAMAL GOSWAMI,ABI TAMIM VANAK

At Kanha Tiger Reserve, Madhya Pradesh. Questions can be asked about the "success" of Project Tiger: after 50 years, there has been only a 33 per cent increase in the population. | Photo Credit: A.M. Faruqui

The count of tigers in India has increased but has this come at the expense of other species and vulnerable local communities.

It is the 50th anniversary of arguably one of the most important pieces of legislation in Indian history. The Wild Life (Protection) Act (WLPA) of India was passed in 1972 with the goal of safeguarding the nation's wild animals and birds and their habitats. The legislation established protected areas, prohibited hunting of most species of

wildlife, and created a new "protectionist" paradigm for conservation of wildlife in India. The law was enacted in response to concerns that wildlife, the tiger in particular, was in danger of extinction due to uncontrolled hunting. The concept of an "umbrella species" was used to justify focussing protection efforts on tigers, as they occupy the top of the ecological food pyramid, to ensure that the entire food chain remained healthy and safeguarded.

Over the past five decades, the WLPA has helped set conservation priorities where they might have otherwise been overshadowed by other pressing social and economic considerations. As India commemorates 50 years of wildlife protection, it is vital to pose critical questions about the law and associated projects, such as Project Tiger, and their impact on wildlife and biodiversity conservation, the lives and livelihoods of vulnerable local communities, and what is the way forward for the next 50 years.

In the following sections, we will examine the outcomes of the WLPA by scrutinising the extent of protected areas, the current status of species originally listed in Schedule I, which denotes the highest level of protection, and the protection of habitat within these areas. Additionally, we will reflect on the role of the WLPA in securing the future of not only a few large, charismatic, rare, and threatened species but also the overall biodiversity of India's ecosystems and the people that depend on them.

Exponential increase in protected area: But what about the species within them?

The WLPA is widely recognised for its success in expanding the network of protected areas in India. Since

1972, the number of protected areas has increased exponentially (figure 1) from 65, covering one million hectares, to 998, covering 17.4 million ha, and now encompassing approximately 5.3 per cent of India's land area. Additionally, over seven million hectares of tiger reserves have been created since 1973 to exclusively protect tigers (figure 1).

However, questions remain about the effectiveness of protected areas in preserving wildlife and their habitats. One way to measure effectiveness is to examine the long-term trends of species that receive the highest protection, such as the Schedule I species, primarily large mammals, in the 1972 Act. Later amendments added species from other taxa, such as plants, birds, amphibians, reptiles, and insects.

State of the tiger and its habitat

The main idea behind the declaration of tiger reserves was to arrest the rapid decline in tiger numbers, reduce their hunting, and improve the habitat within the reserves to start with. How did the tiger reserves fare in ensuring the above goals?

In 1973, when Project Tiger was launched, the country had an estimated 2,000 tigers. Tiger reserves were established across the country as part of the effort to revive the tiger population and those of their associated prey. In the early days, this also involved the often involuntary relocation of people from the "core areas" of reserves.

The Indian Grey Wolf. The alarming decline of open habitat essential for the survival of such species is symptomatic of the emphasis the Wild Life Act and Forest Departments put on the "place" where species exist. | Photo Credit: Mihir Godbole

The initial successes in a few reserves masked a more fundamental problem that threatened to undermine the previous two decades of conservation effort. In the 2000s, tiger populations were reported to be at an all-time high in all tiger reserves, often showing unrealistic growth rates. The numbers turned out to be a lie. As scientists and other whistle-blowers started raising the alarm, tigers were found to have gone extinct in two tiger reserves and their numbers had been inflated in many other parts of India. The reality dawned that after 25 years of Project Tiger, tiger numbers might be less than what they were in 1972.

It took another massive effort to restart the revival process, along with more scientifically robust population-monitoring techniques. Now, another 25 years later, the numbers are estimated to be around 3,000. The huge costs, both monetary and non-monetary, associated with tiger protection and wildlife conservation, such as human displacement, loss of access to forest-based livelihoods,

and loss of productive land, can lead to legitimate questions about the "success" of Project Tiger: after 50 years, it has resulted in a "modest" 33 per cent increase in the population.

Furthermore, the state of tiger habitats in India is a cause for concern. According to a 2019 study, over 50 per cent of the 13 tiger reserves have experienced a decline in habitat quality. The study raised doubts on their long-term viability and concluded that creating "Tiger Reserves" and increasing protection might not be enough to preserve the condition of the vegetation.[1]

Most of India's tigers are concentrated in increasingly isolated pockets of highly productive habitats, in a matrix of mixed use and human-dominated landscapes. While tiger numbers have increased, so too have human-animal conflicts as dispersing tigers venture farther out in search of rapidly vanishing new homes.

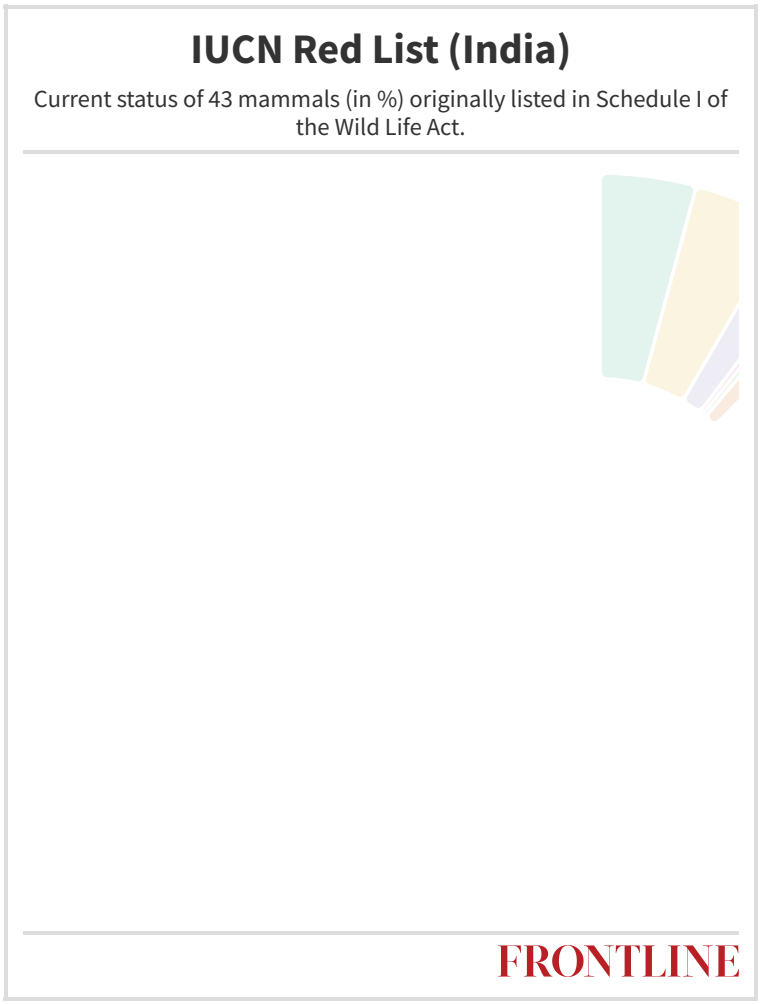
The other Schedule I species

We conducted an analysis of conservation trends for the 43 mammal species that were originally listed in Schedule I of the WLPA. We utilised data from the Red List of Threatened Species portal of the International Union for Conservation of Nature to gain insights into the fate of these species with the highest level of protection under the WLPA.

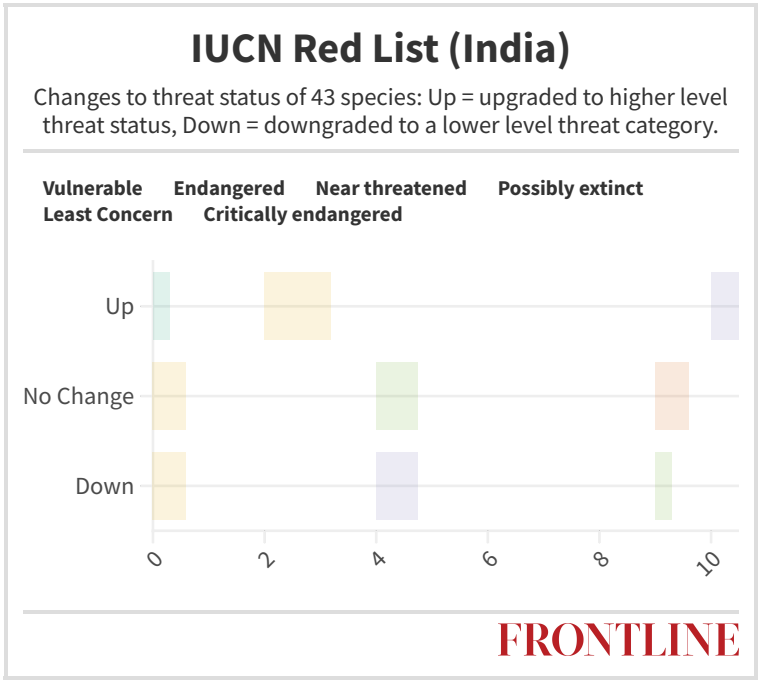
The analysis sought to answer two questions: What are the long-term population trends of these species, and is there any change in their Red List status since their inclusion in Schedule I?

The findings are sobering. Out of the 43 mammal species, 37 species, or 86 per cent, remain under threat and 32 species, or 74 per cent, continue to decline. The Malabar civet (*Viverra civettina*) is probably extinct, and the Chinese pangolin (*Manis pentadactyla*), the Kashmir stag

(*Cervus elaphus hanglu*), and the pygmy hog (*Sus salvanius*) are Critically Endangered.



Six species have shown relatively stable or increasing population trends. And even though the Asiatic lion (*Panthera leo persica*) and the greater one-horned rhinoceros (*Rhinoceros unicornis*) remain Endangered and Vulnerable respectively, their recovery from near extinction is widely regarded as a conservation success story. Significant and protracted delays in translocation in creating founder populations, caused primarily by political one-upmanship, is a cause for serious conservation concern for both the species.



A Flourish chart

Other taxa, such as birds, have not fared any better. Out of the 22 species of birds initially included in Schedule I, the pink-headed duck (*Rhodonessa caryophyllacea*) is likely extinct, whereas the Jerdon's courser (*Rhinoptilus bitorquatus*), the great Indian bustard (*Ardeotis nigriceps*), the lesser florican (*Sypheotides indicus*), the Bengal florican (*Houbaropsis bengalensis*), and the white-winged duck (*Asarcornis scutulata*) are all Critically Endangered and on the verge of extirpation in India. Recently, a conservation breeding programme was launched for the great Indian bustard, but its habitats continue to be under severe threat.

Development triumphs over protection

Apart from habitat degradation, protected areas are shrinking , and such loss is driven largely by their denotification and diversion for development, infrastructure, extractive industries, and defence-related projects.

According to a report by the Legal Initiative for Forest and Environment, in the first half of 2021 alone, the National Board for Wildlife (NBWL) approved the denotification of

13,855.784 ha of protected areas from four wildlife sanctuaries, including the complete denotification of the Galathea Bay and Megapode wildlife sanctuaries in the Andaman and Nicobar Islands.[2] In 2020, the NBWL recommended the diversion of more than 1,00,000 ha of protected areas across several sites. However, diversions for non-conservation activities are illegal as a 2000 Supreme Court order prohibits the denotification of any protected area whatsoever. A detailed analysis of the role of the NBWL in the diversion of protected areas, published in *Economic & Political Weekly* in 2010, concluded that between 1998 and 2009, nearly 10,000 ha was denotified for mining and the expansion of highways and railways.[3]

Greater One-Horned Rhinoceros. The recovery of this psecies through militarised protection in Kaziranga is the big conservation success story of the 20th century. | Photo Credit: RITU RAJ KONWAR

The consequences of such extractive and linear developments have been extremely harmful, particularly for large mammals such as tigers, leopards, and elephants whose ecological and reproductive success is largely determined by the size of their home range.

As India's forests and other natural ecosystems continue

to become more fragmented, degraded, and isolated, animals seeking newer territories often face increased conflicts with humans or fall victim to speeding vehicles on highways or trains along railway tracks that run across most forests in India today.

Rarity versus biodiversity: Missing the bees and bugs for the elephants and the tigers

Is India's focus on iconic species such as tigers and elephants enough to protect its biodiversity? Can the country's current approach to protected areas adequately address the wider concerns of biodiversity conservation and its importance for human well-being?

India's current protection-centric model, which prioritises conservation of large charismatic species, may not effectively address the threats to human well-being caused by the ongoing biodiversity and climate crises. While the protectionist approach is important to prioritise the rarest and most threatened species, it often neglects the more abundant species that play a crucial role in supporting the services and benefits that humans derive from natural ecosystems.

For example, a single species of bee, the giant rock bee (*Apis dorsata*), which can be found in colonies consisting of thousands of individuals, can pollinate on a much larger scale than 100 species of solitary bees that are much rarer. However, conservation efforts are often focussed on rare species to the detriment of more abundant species that are important for the well-being of humans. This is especially so for the rural poor and marginalised communities who often depend on the abundance of a diverse range of biodiversity, including plants, insects, fishes, slugs, snakes, and frogs. The services provided by these species, whether tangible or indirect, are vital to sustain human livelihoods and well-being requirements, such as providing food and income, pollinating crops, sequestering carbon and water, and

providing a sense of joy, wonder, inspiration, and awe.[4]

The protected area-centric approach, also known as the "fortress conservation model", often imposes barriers between humans and nature, creating imaginary and physical boundaries. In extreme cases, walls are erected around protected areas, but more commonly, people with legal, usufruct, historical, and customary claims to forested areas are penalised and restricted from accessing them. Such restrictions alienate local communities from conservation projects and, in the worst cases, turn them against the very species the state is trying to protect.

One of the most critical flaws in India's protected area model is its exclusion of local communities from participation in conservation and protection efforts. Despite efforts to engage communities, including through conservation reserves aligned with IUCN norms, decision-making and conservation prioritisation remain the purview of government authorities. The 2002 amendment to the WLPA expanded protected areas but did little to promote sustainable use of wild bioresources as intended and thus missed an opportunity to create a more inclusive model of biodiversity conservation and address the larger concerns of human well-being.

The Great Indian Bustard. This Schedule I listed bird is facing extinction because it and its habitat were not considered worthy of protection. | Photo Credit: Abi Tamim Vanak

A more holistic approach to biodiversity conservation is necessary so that it supports the needs of all citizens, especially those most vulnerable to the impacts of biodiversity loss and climate change. This requires moving beyond fortress conservation and promoting sustainable use of wild bioresources. By recognising and

respecting the legal, customary, and traditional rights of local communities, through the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, conservation efforts can benefit both biodiversity and human well-being.

Beyond protected areas

The WLPA has long been criticised for its narrow focus on protecting forests, perpetuating the flawed idea that treeless landscapes are inherently degraded and worthless. As a result, many iconic species that call these so-called "wastelands" home have become increasingly rare over time. Only in cases where these areas contain grasslands with large herbivores such as rhinoceroses, elephants, and wild buffaloes are they deemed worthy of protecting.

The historical neglect of dry and semi-dry grasslands or other "open natural ecosystems" has had dire consequences, with many native grassland species such as the great Indian bustard and the Jerdon's courser teetering on the brink of extinction because of the lack of habitat protection by State Forest Departments. The alarming decline of open habitat that species such as the great Indian bustard, lesser florican, and the Indian grey wolf (*Canis lupus pallipes*) need to survive is also symptomatic of a broader conservation problem. The WLPA and State Forest Departments are strongly tied to the "place" where species exist. By protecting these places, they assume that the species within them will also thrive. This approach generally works for most forest-dependent species. However, "landscape" species such as the bustard, the wolf, the leopard, and many bird species have always lived in shared spaces well outside the purview of what a Forest Department considers its domain. Hence, the conservation of these species has suffered because the place-based approach of protecting a few 10s or 100s of square kilometres does not match the thousands of square kilometres that these species typically need.

This also highlights another problem with the WLPA. At its very core, it is a restrictive and punitive Act. It carries with it the heft of a long stick to punish wrongdoers if they violate the principles of conservation set forth in it. However, the carrot of incentivising conservation is missing from its purview. Therefore, while the mechanical, and often unscientific, cataloguing of species into the various schedules was meant to denote different levels of protection, the WLPA did little to actually promote their conservation. The ultimate goal of conservation should be to create conditions so that species are no longer under threat. Such a framework is entirely missing from the WLPA. The listing of a species within a particular schedule does little to galvanise State agencies into action to first determine the current status of the species and then prepare and implement a species recovery plan so that ultimately the species can be "delisted" from the schedule.

For a radical shift in conservation ideology

As we breach the 50-year mark, it is a fitting time for reflection. To not only look at where we were and where we stand today but also start working towards where we envisage that India's biodiversity will be in the next 50 years.

Currently, India's commendable efforts to expand its protected areas and tiger reserves are undermined by an excessive fixation on tiger numbers. Moving forward, it is crucial to broaden the metrics of conservation efficacy beyond narrow quantitative goals to include more qualitative aspects, such as promoting connectivity across protected areas, enhancing habitat within existing reserves, and providing ample space for all species, and not merely tigers, to move freely and maintain genetic diversity. Going forward, the Act must envisage biodiversity conservation as a goal rather than simply protecting a few select species. In addition to that, future plans should include predictive models to design

interventions and strategies to tackle the complex conservation challenges posed by the ongoing climate-driven crisis.

However, this will require a radical shift in India's conservation ideology from a strictly "protectionist" and punitive approach to a more inclusive and enabling one that prioritises biodiversity conservation as a mainstream goal. To fully embrace this approach, India must also acknowledge that biodiversity belongs everywhere and should not be confined to protected areas.

Looking ahead to the next 50 years, we must continue to push for progress in the fight to protect our planet's biodiversity. By learning from the past and looking towards the future, we can ensure a safe, sustainable, and equitable world for not just the biodiversity that the WLPA is mandated to conserve and protect but also the lives and livelihoods of millions of people dependent on biodiversity.

Rajkamal Goswami is a Fellow in residence at the Ashoka Trust for Research in Ecology & the Environment (ATREE), Bengaluru. Abi Tamim Vanak is a Senior Fellow at ATREE.

References

1. Koulgi, P.S., N. Clinton, , and K.K. Karanth (2019): "Extensive vegetation browning and drying in forests of India's Tiger Reserves", *Science Reports*, 9, 14976.

2. https://thelifeindia.org.in/wp-content/uploads/2021/10/analysis-of-wildlife-2021.pdf

3. Menon, M., K. Kohli, and V. Samdariya (2010): "Diversion of Protected Areas: Role of the Wildlife Board", *Economic & Political Weekly*, 45, pp. 18–21.

4. Naeem, S., R. Chazdon, J.E. Duffy, C. Prager, and B. Worm (2016): "Biodiversity and human well-being: an essential link for sustainable development", *Proceedings of the Royal Society B: Biological Sciences*,