

## Creating corridors of certainty: on India's tiger population

Ranthambore in Rajasthan is arguably India's most well-known tiger reserve, aglow with bold tigers posing for the camera. It has a fierce conservation ethic, a success story with few parallels. It is estimated that there are over 60 tigers in this relatively small tiger reserve. But what about the future? A genetic study suggests that Ranthambore's tigers suffer from low genetic diversity and isolation.

While the reserve itself is doing well in terms of tiger numbers, it is cut off from other forests. This is a microcosm for many other tiger reserves in India. Several are admirably run with healthy tiger numbers, but simultaneously they are also witness to fast-paced disturbance in the landscape around them. While numbers of tigers are stable inside reserves, connectivity between them is getting cut off.

### Ranthambore now home to 62 tigers

Based on a study of samples from tiger post-mortems and collection from live tigers, a new study, which had inputs from laboratories at the Wildlife Institute of India, the Centre for Cellular and Molecular Biology, Kerala Veterinary and Animal Sciences University, and Aaranyak has found that India has three distinct and genetically connected tiger populations. These are in: south India; central India, the Terai and north-east India; and in Ranthambore. The Ranthambore population has the least genetic diversity and may suffer from isolation. There are two issues here: populations require genetic flow to remain robust; securing healthy tiger numbers are not enough for tiger health. Second, we are in an age of active management. When tigers go extinct in an area, they are flown in or carried in from other areas — as was done in the case of Panna (Madhya Pradesh) and Sariska (Rajasthan). It appears, *prima facie*, that the problem is solved. But are these management devices a suitable proxy for genetic flow through actual habitat corridors?

India has more than 60% of the global wild tiger population. Thus, the question is not just of today but also of tomorrow.

Several studies suggest that tigers do well in remote and dense forest. But tigers also need new forest to colonise, dispersing from their natal areas as they reach adulthood. Natural history has viewed the tiger to be the epitome of the 'wild' animal — doing well in areas with less human disturbance, taking down large prey, keeping a distance from people, and being fiercely territorial of space. Modern surveillance proves this theory demonstrating that tigers will traverse long, difficult distances to establish territories. As examples, we have had tigers moving from Ranthambore to Bharatpur (Rajasthan), from Pilibhit to Lucknow (both Uttar Pradesh), and from Pench (Madhya Pradesh) to Umred (Maharashtra).

### The Ranthambore story

Genetically isolated or stranded populations can suffer from genetic depression, and subsequently, mutations and ailments. This has already happened to species which have had stranded populations such as the Florida panther and possibly the Great Indian Bustard. While the tiger is undoubtedly the epitome of wildness, its wildness is not restricted to being a fierce obligate carnivore which hunts to survive, dying when weakened. Wildness and wildlife conservation also include preserving ecological processes which hold their own evolutionary potential. A robust forest or habitat corridor between tiger reserves is an important means of maintaining these ecological processes and may hold the key to the survival and adaptation of the species.

Yet today there is a hard disregard for conservation outside protected areas. Even the cores of reserves are on the chopping block. Is this because there is contentment that tiger numbers are stable overall? In Madhya Pradesh, the Ken-Betwa river interlinking project will submerge a large part of the Panna tiger reserve and landscape. A new proposed irrigation project will submerge more than three lakh trees in the Palamau tiger reserve (Jharkhand). New highway proposals which will make wider cuts through Sariska, Kaziranga (Assam) and between the Kanha and Pench reserves are being considered or implemented. Clearly, a wildlife corridor or habitat is a bad word in the lexicon of planning and development.

The tiger story is built around a narrative of numbers. Undoubtedly, numbers are important. They indicate a continuous protection effort and that the habitat is doing well. But numbers are the beginning of the tiger story, and not the end.

K. Ullas Karanth: 'We are slow to adopt science for conservation'

The fact that the forest department carries out conservation but does not own land outside of the forest is an important factor. Thus an effort to link reserves would need many more stakeholders and political will. This is not easily done, but needs to be attempted as a conservation priority. Rajasthan recently created the Mukundra tiger reserve for Ranthambore's 'spillover' tigers. Apart from moving tigers with human intervention, the corridor between the two reserves should be strengthened too. Other States need to start restoring corridors or stepping stones between forests.

With mounting human pressure, to ask for more acres of protected forests may be utopian. But conserving workable corridors is doable — and as science shows us, also necessary.

*Neha Sinha is a wildlife conservationist*

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