A LEOPARD COUNT WITH A MISSING BENCHMARK NUMBER

Relevant for: Environment | Topic: Biodiversity, Ecology, and Wildlife Related Issues

"India's leopard population increases by 60% in 4 years" [since 2014] is what most newspapers highlighted when a first-of-its-kind report on leopard numbers in the country was released recently. Unlike the fanfare and debates that would have rolled out with tiger numbers, there was hardly any discourse about this species. Like always, the leopard loses out to its larger cousin. However, to get a population estimate of an elusive carnivore at the geographical scale of 21 States in India is tricky and requires colossal effort. On this front, the entire research team has to be congratulated for completing this massive task.

Most times, the goal of species conservation is to protect and increase the population of the species of interest. In this direction, scientific monitoring of their current numbers, and an increase or a decrease in numbers over the years will determine whether the conservation efforts undertaken to preserve the species are bearing fruit. To achieve this, a solid, authentic benchmark is very essential and critical.

Also read | Have to ensure animals live in safe habitats: Modi on rise in leopard population

Though the report, Status of leopards in India, 2018, distinctly mentions that the figure is the 'minimum number', the way it was launched has depicted that the country has 12,852 leopards. If we go by these figures, I feel this is an underestimate by at least 40%. In my opinion, India may have over 20,000 leopards.

This study focused mostly on forested habitats where tigers are found, as it was a by-product of the all-India tiger estimate. Hence other leopard habitats such as rocky outcrops, smaller dry forests, higher elevation habitats in the Himalayas, agricultural landscapes (coffee, tea, arecanut, sugarcane plantations) where leopards are known to be found in good numbers were not a part of this exercise. Similarly, much of Northeast India was excluded from the study. Hence the area studied by itself does not represent a true pan-India leopard population. Though a very coarse scale map is made available in the report, it clearly depicts that vast stretches of leopard habitats have been excluded from the study. I think this is a key factor that has kept India's leopard numbers lower than the true picture.

It requires enormous resources and time to carry out a study on the scale of a large nation such as ours. If this study had included leopard population estimates from other research organisations (for the same study period and which had used camera trapping as a methodology) from the areas that were not covered (by this study), it could have added significant information and leopard numbers to the current estimate of 12,852.

Also read | 650 leopards in Kerala's tiger reserves

My work on leopards is focused on my home State of Karnataka. Hence I will use this as an example to draw parallels on the all-India leopard numbers. Our camera trapping exercise in the BRT-MM Hills-Cauvery-Bannerghatta protected areas revealed a leopard population of 267 individuals. This protected area complex, of an area of 2,825 square kilometres, possibly represents less than 6% of leopard habitat in Karnataka. This landscape also has two competing large predators — the tiger and the dhole — who keep leopard numbers under check. Even in small, natural habitats such as the Devarayanadurga Reserved Forests and its adjoining areas,

our studies showed a population of 15 leopards in a small area of 70 square kilometres. Small rocky outcrops such as Devarayanadurga can potentially have high leopard numbers. Hence it is critical that such habitats are included when the population figure for an entire nation is projected.

Also read | [Karnataka second in country in leopard numbers](#)

The claim that "leopard numbers increased by 60%" also needs to be closely looked into.

In 2014, the study estimated a minimum leopard population of 7,910 individuals from 18 different Indian States covering a study area of 92,164 square kilometres. In 2018, the study was expanded to 21 States with a study area of 121,337 square kilometres, which shows a spatial increase in the size of the study area by 25%. Even the number of camera trap locations has increased by nearly threefold (9,735 to 26,838 camera trapping locations).

Also read | [Leopard habitats and wild prey base outside protected areas eroding: Study](#)

So, comparing results from 2014 with 2018, and hailing it as a 60% increase is quite misleading. It simply means that we covered more area and put in more camera traps to count leopards, which resulted in higher leopard numbers. It is like carrying out human population estimates in 18 States, and the next year we conduct a similar exercise but in 21 States. Obviously, the count will result in a higher number of people, but to claim that population figures have increased would be fallacious.

Overall, we need a benchmark number against which we can evaluate the trend in leopard numbers and threats to this carnivore. In general, habitat loss due to mining and quarrying, poaching for body parts, mortality due to vehicular collisions, retaliatory killing due to human-leopard conflict and accidental deaths due to snares set for catching wild prey all seem to be impacting the conservation of this rosette-patterned cat. If we can assess leopard numbers in a few selected sites and monitor the area occupied by them over large swathes, it will perhaps give us a better overview of leopard conservation efforts.

Sanjay Gubbi works on leopard ecology and conservation in Karnataka and is the author of the book, 'Second Nature: Saving Tiger Landscapes in the Twenty First Century'. The views expressed are personal

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