INDIA WILL BE GLOBAL HOTSPOT FOR HUMAN-WILDLIFE CONFLICT BY 2070

A study reveals that by 2070, half of Earth's terrestrial surface will see heightened conflict. This overlap will be concentrated in regions where human population density is already high, including China and India. In addition, Africa and South America, which have very high biodiversity, would experience greater pressure in the future

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AS India's population continues to grow, the nation faces an escalating challenge of managing the increasing overlap between human populations and wildlife. A recent study published in Science Advances reveals that by 2070, this overlap will intensify across more than half of Earth's terrestrial surface, driven primarily by human population growth rather than changes in wildlife distributions due to climate change. In India, where both human and wildlife populations are dense, this trend will present a significant conservation challenge that calls for strategic planning and targeted interventions.

India is home to a rich diversity of wildlife, including iconic species such as tigers, elephants, and leopards. However, it is also one of the most densely populated countries in the world, with over 1.4 billion people cohabiting spaces that wildlife also needs.

The study titled "Global expansion of human-wildlife overlap in the 21st century" conducted by University of Michigan forecasts that India, along with other populous regions like China, will experience some of the highest levels of human-wildlife overlap. This increased proximity heightens the risk of conflict, where wildlife may damage crops, attack livestock, or pose direct threats to human safety. Conversely, human activities like deforestation, urban expansion, and agriculture will further encroach on natural habitats, pushing wildlife into smaller and fragmented areas.

TNIE has reviewed several documents tabled during the recently concluded Parliament session. Official statistics show the human-wildlife conflict has been on the rise across the country. The Union government and states are culpable of giving permissions left, right and centre for environmentally detrimental projects inside forest areas. As a result, the casualty numbers of both animals and humans are increasing.

In the last five years, the government has processed 8,731 proposals and approved diversion of close to 1 lakh hectares of forest land for non-forest activities under Forest Conservation Act, 1980. The number of proposals recommended inside the wildlife sanctuaries and national parks are 881, of which 421 were recommended during last fiscal year alone. As for casualties, 2,727 people died due to elephant attacks and 349 people were killed by tiger attacks in India between 2019 and 2024. Equally, unnatural deaths of animals are also rising. Hundreds of elephants have died due to electrocution, train hits and poisoning, the data show. Only a few weeks back, two tigers died due to poisoning in the highly-guarded Mudumalai tiger reserve in Tamil Nadu.

The study said this would be the case in many countries. "We found that the overlap between populations of humans and wildlife will increase across about 57% of the global lands, but it will decrease across only about 12% of the global lands. We also found that agricultural and forest areas will experience substantial increases of overlap in the future," said Deqiang Ma, lead author of the study and a postdoctoral research fellow at the University of Michigan Institute for Global Change Biology in the School for Environment and Sustainability. To calculate future human-wildlife overlap, the researchers created an index that combined estimates of where people are likely to populate land as well as the spatial distributions of 22,374 species of terrestrial amphibians, birds, mammals and reptiles. They drew information about the spatial distribution of vertebrates from previously published data that forecasts where species will live based on their climatic niches. Their estimates of where people are likely to live were based on projections of economic development, global society and demographics. The researchers found that areas that currently have and are projected to have high human-wildlife overlap in 2015 and 2070 are concentrated in regions where human population density is already high, including China and India.In addition to those places, "another area of major concern are forests, particularly in Africa and South America where we're seeing a large increase in the overlap in the future," said Neil Carter, principal investigator of the study and associate professor of environment and sustainability. "The reason that is concerning is because those areas have very high biodiversity that would experience greater pressure in the future."

The researchers also found that median species richness—the variety of species in a given area—is projected to decrease across most forests in Africa and South America. In South America, mammal richness is projected to decline by 33%, amphibian richness by 45%, reptile richness by 40% and bird richness by 37%. In Africa, mammal richness is projected to decline by 21% and bird richness by 26%.

Preserving biodiversity in these zones of overlap has real benefits. "There are cases of human-wildlife interactions that are both good and bad, but we anticipate that they're going to become more pronounced. For example, COVID19 was the result of human contact with wild animals, and there is concern that new diseases will emerge from greater encounters between people and certain wildlife species," Carter said. "But you also have species that provide important benefits to people, like reducing the abundances of pests." Researchers said future conservation strategies will have to evolve. In the past, a core conservation strategy was to establish protected areas where human access is restricted. This is becoming harder to implement because there are fewer such places. Conservationists will need to engage local communities to build interest in helping improve the conservation process.

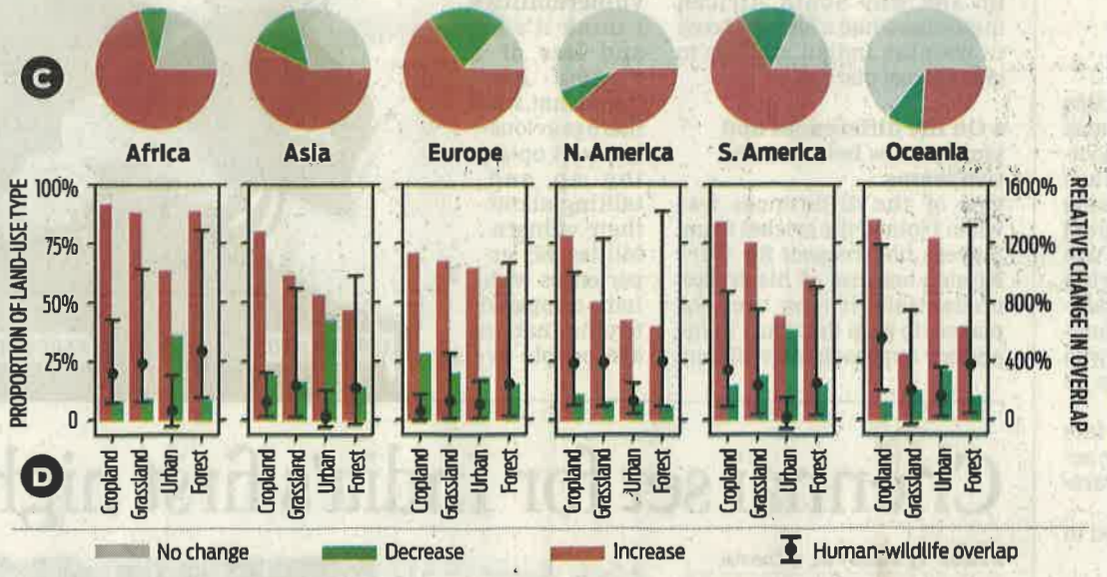
NUMBER OF PROPOSALS RECOMMENDED IN WILDLIFE AND NATIONAL PARKS

- 71 — 2019-20
- 85 — 2020-21
- 154 — 2021-22
- 150 — 2022-23
- 421 — 2023-24

GLOBAL EXPANSION OF HUMAN-WILDLIFE OVERLAP

CURRENT AND PROJECTED DISTRIBUTIONS BY 2070

PROJECTED CHANGES FOR 4 LAND-TYPE CATEGORIES FOR EACH CONTINENT



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