

EXPLORING PROBLEM OF HUMAN-WILDLIFE CONFLICT: CAUSES, APPROACHES AND MANAGEMENT

Bany Joy*# Merin P Johny#

*Newman College Thodupuzha, Kerala, India

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ABSTRACT

In a growing country like India where the majority of human population depends significantly on natural resources, the forest- dwellers have co-existed with the animals for long. However, the increased human demand for natural resources and degradation of animal habitats, have resulted in a contradictory scenario between humans and wildlife, and agencies involved in wildlife management. With the increase in animal numbers in response to protection, human-wildlife conflicts also have grown. In this article, we try to discuss the subject of human-wildlife conflict in depth. More lately, the phrase 'human-wildlife conflict management' is being extended to this and other scenarios that entail any unfavorable interactions between humans and animals. These conflicts might be either actual or perceived, economic or artistic, societal or political. Human-wildlife conflicts also may involve damages to the person that occur from federal, state, or municipal wildlife legislation, rules, or policies that are aimed to preserve or conserve wildlife, public benefits, and private property rights.

I. INTRODUCTION

Human-animal conflict is one of the greatest hazards to India's wildlife. It occurs in a variety of ways and may be quite intense. Not only does conflict directly damage species and habitats, but it also exacerbates other issues (such as illicit wildlife trading) that jeopardise the long-term viability of wild India. In addition, human-animal conflict is often the result of events that affect wildlife on their own. Because of this, it is critical to consider conflicts in the context of broader environmental degradation, population expansion, economic hardship, and an administration that is generally indifferent to the needs of its citizens.

There are more rural people in India than anywhere else in the world, as well as some of the world's most diversified ecosystems. Many of its citizens have been harmed by wildlife, including Bengal tigers, Asian elephants, Indian rhinoceros, and other rare animals, due to its proximity to these populations. People and elephant conflict cost India over \$1 million a year in lost crops and property damage. Each year, 400 people and 100 elephants die as a result of this conflict. Crop losses from non-charismatic species may be almost as substantial as those from charismatic ones.



Figure 1: Human -wildlife conflict

This is a highly political topic that elicits strong feelings and, at times, knee-jerk reactions. Because of India's rapidly expanding population as well as decreasing forests and a host of other variables, this war will very certainly go on for as long as the two countries remain at odds. This is not a new phenomenon. However, its size and breadth have been rising exponentially over time. This study defines human-wildlife conflict as instances in which the behaviours of wild fauna harm human beings or their property for the purpose of simplicity and pragmatic remedies rather than scapegoating. To say that wildlife is ultimately accountable for these results is incorrect. Human activities that affect wildlife and their habitat — and there are many! — might be considered instances of "human-wildlife conflict" in this technical sense. Assuming that these acts are a contributing factor, we may more quickly discover remedies.

- **Broad Causes of Conflict**

Human-wildlife conflict has five primary "causes" that may be categorised at the broadest level:

1. There is a decrease in habitat size and quality owing to human activity, such as clearing forest, removing Protected

Area (PA) designations, and expanding farming and habitations.

2. A species' capacity to find and consume food and other resources more readily outside of a protected area (PA) than within a PA, even if the PA is huge and well-fed.
3. As a result, individuals and groups within a species may be compelled to branch off from the main population and seek refuge on the periphery of human settlements (or even within them).
4. Affluent people's need to visit protected areas and take benefit of the natural resources (such as wildlife) puts them at risk of direct and indirect conflict with endangered wildlife.
5. Human population expansion or wild animal population growth at high rates, which leads to more clashes between the two "sides" and exacerbates other variables that contribute to conflicts. As populations of wild animals increase, they may "spill over" into human towns and farming areas, if a PA is unable to contain them.

II. THE INDIAN SITUATION

There are more rural people in India than anywhere else in the world, as well as some of the world's most diversified ecosystems. Many of its citizens have been harmed by wildlife, including Bengal tigers, Asian elephants, Indian rhinoceros, and other rare animals, due

to its proximity to these populations. A human-elephant conflict in India is projected to cost the country 1 million hectares (ha) per year in crop destruction and property damage, 400 human lives and 100 elephant deaths per year. Crop losses from non-charismatic species may be almost as substantial as those from charismatic ones.

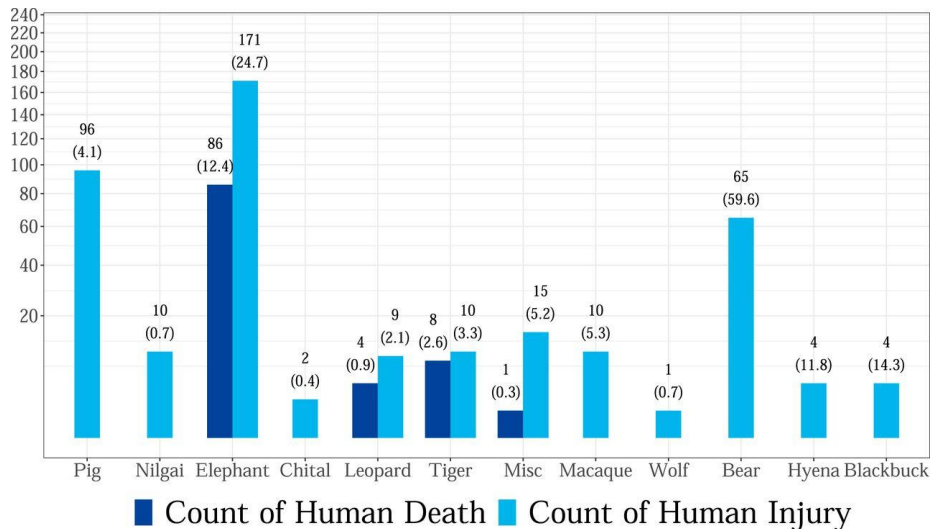


Figure 2: Human casualties because of Human-wildlife conflict in India

Because of its wide climatic and geographical range, India has remarkably diversified flora and fauna. Just 2.4% of the world's surface area, has roughly 8% of all documented species, including 91,000 animal and 45,000 plant species. Four of the world's 'Biodiversity Hotspots' are located entirely or partially inside the borders of India. The country's large network of protected areas and wildlife reserves includes more than 100 National Parks and more than 500 Wildlife Sanctuaries. According to Article 48A of Part IV as Directive principles, it is our duty as Indian citizens to safeguard the country's forests and wildlife, and this duty is enshrined in Article 51A of Part IVA of the Constitution. Protected areas in this rapidly growing economy, home to about 17% of the global population, have seen human habitation infiltrate their natural landscapes. Deforestation, fragmentation of natural habitat, and extension of agricultural

lands in wooded landscapes threaten wilderness regions owing to human population increase. More and more people are moving into protected areas, and the unfavourable interactions between humans and animals, particularly large creatures, are becoming more common. Aside from these protected regions, the situation isn't much better, as people continue to expand on natural ecosystems, increasing the likelihood of conflict with wild animals as they attempt to meet their dietary, behavioural, and environmental demands.

Large creatures like as tigers, elephants, lions, and others have a strong relationship with humans and their land usage, resulting in significant disputes across the country. When cattle are overgrazed in wildlife environments, wild herbivore numbers drop or disappear locally, while ungulate populations, both wild

and domestic, are overrepresented, livestock depredation by wild predators is amplified. Violence against humans and cattle is a serious threat to people's food and livelihood security, as well as their psychological well-being. In India, most of the research on HWC are either species- or area-specific. A comprehensive analysis of the current state of human-wildlife conflict in the country and its influence on community livelihood security was undertaken for this study. The success and shortfalls of current measures to deal with the problem are also discussed in this section, as well as possible strategies.

III. DIFFERENT APPROACHES TO TACKLE HUMAN-WILDLIFE CONFLICT IN THE REGION

In the sub-region, a variety of options for dealing with human-wildlife conflict have been developed. Many have failed, and those that have succeeded are rarely transferrable to other situations or circumstances. Successful human-wildlife conflict management strategies address the specific circumstances and characteristics of the area as well as the nature of the problem. The primary approaches may be divided into the following categories:

Vigilance method: This strategy is used to warn farmers of approaching wildlife. The usage of watchtowers is one example. These are built at half-kilometre intervals and can be used to spot approaching wildlife and raise the alarm. Farmers must work together to manage the watchtowers and create duty rosters, which are widely used.

Passive preventative methods: Simple physical barriers and deterrents are used to obstruct the passage of potential problem animals:

- **Buffer zones:** A section of woodland along a field's boundary that is cleared (about five metres). This allows the farmer to see approaching animals and may serve as a deterrent to wildlife. The clearance may be done with only slashers and axes.
- **String fences:** These can be built along the edge of a buffer zone using local materials such as 3-meter-long poles placed at 30 metre intervals, bailing twine (or locally made sisal rope) strung between them, and 5-meter squares of mutton cloth attached to the twine. This is used in conjunction with grease and hot pepper oil, which, when applied to the twine, acts as a waterproofing medium and irritates any animals (elephants) that come into contact with the fence. Cowbells can be attached to a fence to serve as an alarm system to alert farmers to the presence of livestock.
- **Carnivore-proof fencing:** Fences can be erected to deter or keep large carnivores out while allowing livestock to graze freely. This has proven to be a very effective method of reducing predation on calves during their most vulnerable stage of development.

Active prevention methods: Active preventive approaches that have been successful in the region include: - Herders, dogs, and donkeys: Dogs and donkeys have recently been used to accompany livestock. When it comes to cheetah and spotted hyaena, this has had a reasonable amount of success in reducing human-wildlife conflict. A variety of dog breeds can be used for this, but Anatolian sheepdogs were used in a specific "guard dog" programme. Donkeys are known to act as a deterrent to predators, whereas dogs are

known to actively protect livestock from predators.

Active methods: These aim to actively control human-wildlife conflict by killing, removing, or scaring problem animals away with various forms of disturbance.

- **Noisemakers:** Farmers use noisemakers to scare elephants away from their fields. Firecrackers, locally made bangers, or explosives made from gunpowder or fertiliser are examples of such devices; alternatively, a large bang can be made by placing a sealed metal container filled with water on a fire.
- **Killing problem animals:** When human-wildlife conflict becomes unbearable, the only option is to locate and kill the "problem animal." Killing these animals is illegal in some countries, and wildlife authorities generally take action. These animals are dangerous, and many farmers are afraid of them.
- **Pepper spray:** This method is employed in places where animals have gotten accustomed to other, less effective treatments, and it is expensive. Pepper spray will be manufactured locally, according to plans.
- **Crop positioning and food security:** Farmers should be encouraged to plant crops that are unpalatable to wildlife or known crop-raiding animals, such as chillies, near the edge of the field, and palatable food crops, such as grains (maize, sorghum, etc.) near the watchtower or homestead, in the middle of the field. This slows the animal's progress and gives the farmer

ample warning of the approaching animal.

IV. ANALYSIS OF HUMAN-WILDLIFE CONFLICT MANAGEMENT

Many endangered animals, including wild buffalo, elephants, tigers, lions, and leopards, are under a serious threat from human-wildlife conflict. Such disputes have extended environmental implications on ecosystem stability and biodiversity protection, affecting not just the population but also the environment. Because laws are formed by humans, there is a risk of anthropocentric bias in favour of humans, and the rights of wild animals are frequently overlooked. However, while man and animal are equally located in the cosmos, human rights approaches to environmental protection in conflict are frequently focused on anthropocentricity.

The main causes of human-animal conflict include human encroachment on wildlife habitat for development and survival, as well as allowing animals to graze in forest areas for grazing purposes, and forest fire. Both humans and animals suffer losses as a result of this struggle. The consequences of this confrontation are significant, resulting in farmer agricultural losses and a fall in wildlife conservation. Human-leopard conflict is a typical occurrence in many countries. The killing of leopards by members of the public, as well as their poaching, have been making headlines in the press. It is difficult to secure the harmonious coexistence of leopards and people in densely populated areas. According to research, even in places with high human density, assaults on humans and domestic animals may be maintained to a minimum in most circumstances. Conflicts with wildlife may arise as a result of anomalous behaviour in wild animals, such as monkey aggression, carnivore cattle lifting, bear injury during

Mahua season, and so on. People's development is always welcome, but not at the expense of the ecosystem's negative ecological aspects. Development activities produce increased interference in the forest, as well as the privacy of wildlife, resulting in wildlife conflict.

Wild animals often cause damage to agricultural crops and property, as well as killing cattle and humans, resulting in man-animal conflict. Human population development, land use change, species loss of habitat, eco-tourism, excessive access to reserves, rise in cattle population abutting the forest, depletion of natural prey base, and other factors are frequently cited as causes of conflict. In conjunction with Wildlife Boards, the Central Government, State Governments, and Union Territories should develop stronger preservation programmes so that such disputes may be averted to a significant degree. It is also critical that persons who are staying in Community Reserves participate. Environmental justice can only be accomplished if we abandon ideals such as sustainable development, polluter pays, and precautionary principles, all of which are founded on the best interests of people and the environment. Ecocentrism is based on the belief that people are a part of nature and that all living things have inherent value. To put it another way, human interests do not always take primacy, and people have duties to non-humans that are unrelated to human interests. Ecocentrism is therefore life-centred and nature-centered, with both people and non-humans included in nature.

V. CONCLUSION

Many animal populations have rebounded during the last century, owing to protection from overexploitation and the development of research and the application of wildlife management. Human-animal conflicts have

risen in tandem with the growth in wildlife populations. Despite these conflicts, many individuals continue to show their love for animals and work to restore wildlife habitat on their land.

In this climate, wildlife managers may need to change their attention from maximising wildlife populations to the more challenging task of maximising wildlife values for civilization. One of the most challenging aspects of attempting to attain this optimum is that the rewards and obligations have not been properly dispersed across society's many groups. Unfortunately, private landowners, particularly those in the agricultural community, have borne the brunt of this cost. This will continue to stoke debates over the appropriate size of animal populations and how they should be managed. To better manage these conflicts, wildlife managers must begin to see these new challenges as opportunities to gain wider public support for professional management, in addition to having better information about the growing magnitude of human-wildlife conflicts and strategies that can be used to increase stakeholder participation in finding solutions.

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