



A Monthly e Magazine  
ISSN:2583-2212

March 2024 Vol.4(3),1166-1170

Review Article

## An Overview of Human Wildlife Conflict

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<https://doi.org/10.5281/zenodo.10890604>

### Introduction

A Human-wildlife conflict refers to the negative interaction between humans and wild animals, leading to adverse impacts such as injury or loss of human lives, crop, livestock and other properties, or even their emotional well-being, and equally negative impacts on wild animals and or their habits causes of Human-wildlife conflict. Wildlife can pose a direct threat to the safety, livelihoods and well-being of people. For example, when elephants forage on crops, seals damage fishing nets or jaguars kill livestock, people can lose their livelihoods. Retaliation against the species blamed often ensues. The term human-wildlife conflict has traditionally been applied only to these negative interactions between people and wildlife, but this implies deliberate action by wildlife species and ignores the conflicts between groups of people about what should be done to resolve the situation.

Human-wildlife conflicts are becoming more frequent, serious and widespread because of human population growth, agricultural expansion, infrastructure development, climate change and other drivers of habitat loss. Human-wildlife conflicts can occur wherever wildlife and human populations overlap, so any factor that forces wildlife and people into closer contact makes conflicts more likely.

- With closer and more frequent and diverse contact between animals and people, the probability of animal microbes being transferred to people increases.
- Urbanization: In modern times rapid urbanization and industrialisation have led to the diversion of forest land to non-forest purposes, as a result, the wildlife habitat is shrinking.



- **Transport Network:** The expansion of road and rail network through forest ranges has resulted in animals getting killed or injured in accidents on roads or railway tracks.
- **Increasing Human Population:** Many human settlements coming up near the peripheries of protected areas and encroachment in the forest lands by local people for cultivation and collection of food and fodder etc. therefore increasing pressure on limited natural resources in the forests.

### **Impacts of Human Wildlife Conflict**

- ❖ **Impact on Wildlife and Ecosystems:** HWC can have detrimental and permanent impacts on ecosystems and biodiversity. People might kill animals in self-defence, or as pre-emptive or retaliatory killings, which can drive species involved in conflict to extinction.
- ❖ **Impact on Local Communities:** The most evident and direct negative impacts to people from wildlife are injuries and the loss of lives and of livestock, crops, or other property.
- ❖ **Impact on Equity:** The economic and psychological costs of living with wildlife disproportionately fall to those who live near that wildlife, while the benefits of a species' survival are distributed to other communities as well.
- ❖ **Impact on Social Dynamics:** When a HWC event affects a farmer, that farmer may blame the government for protecting the perpetrator that damages crops, while a conservation practitioner may blame industry and farmers for clearing wild habitats and creating the HWC in the first place.
- ❖ **Impact on Sustainable Development:** HWC is the theme in conservation that is strongly linked to the SDGs as biodiversity is primary to sustain the developments, even though it is not explicitly mentioned as one.

### **Who suffers directly from human-wildlife conflict?**

Both people and wildlife can suffer from human-wildlife conflict. Farmers suffer economically from the loss of crops and livestock. In other more serious cases, people are killed. However, the overall impact of human-wildlife conflict tends to be low when the losses are spread over a whole community. The people who suffer most tend to be those living on the edges of settlements and those living close to community or state-managed wildlife areas. On the other hand, for animals, some wildlife populations may decline or become locally extinct as a result of extensive human-wildlife conflict.

### **Direct costs of human-wildlife conflict?**

Direct costs to humans are the financial, social and cultural losses suffered as a result of human-wildlife conflict.

Examples include:

1. Raiding and destruction of food crops;
2. Loss of income from sales of produce from cash crops;
3. Damage to water sources and installations;



4. Damage to stored produce;
5. Loss of livestock;
6. Human injury or death;
7. Damage to property (buildings, etc).
8. The costs to wildlife include the loss of habitat, persecution and possible population decline.

### **What are the indirect costs of human-wildlife conflict?**

The indirect costs of human-wildlife conflict are generally associated with the physical threat of living with large mammals. This has the effect of restricting people's movement freedom, fear of running into such animals, or restrict their access to resources such as water, firewood and grass for thatching.

### **Solution for HWC**

- I. Moving From Conflict To Coexistence: The goal of HWC management should be to enhance the safety of people and wildlife and to create mutual benefits of coexistence.
- II. Integrated and Holistic Practices: Holistic HWC management approaches allowspecies to survive in areas where they otherwise would have declined or become extinct. All species on our planet also are essential for maintaining ecosystem health and functions.
- III. Participation: The full participation of local communities can help reduce HWC and lead to coexistence between humans and wildlife.

### **Initiative Taken by Government**

- **Advisory for Management of HWC:** This has been issued by the Standing Committee of National Board of Wildlife (SC-NBWL).
- **Empower Gram Panchayats:** The advisory envisages empowering gram panchayats in dealing with the problematic wild animals as per the WildLife (Protection) Act, 1972.
- **Provide Insurance:** Utilising add-on coverage under the Pradhan Mantri Fasal Bima Yojna for crop compensation against crop damage due to HWC.
- **Augmenting Fodder:** Envisages augmenting fodder and water sources within the forest areas.
- **Take Proactive Measures:** Prescribes inter-departmental committees at local/state level, adoption of early warning systems, creation of barriers, dedicated circle wise Control Rooms with toll free hotline numbers, Identification of hotspots etc.
- **Provide Instant Relief:** Payment of a portion of ex-gratia as interim relief within 24 hours of the incident to the victim/family.

### **Initiative Taken by State Government**

- In 2018, the Uttar Pradesh government had given its in-principle approval to bring man-animal conflict under listed disasters in the State Disaster Response Fund.
- The Uttarakhand government (2019) carried out bio-fencing by growing various species of plants in the areas.
- The Supreme Court (2020) affirmed the right of passage of the Elephants and the closure of resorts in the Nilgiris elephant corridor.



- Odisha's Athagarh Forest Division has started casting seed balls (or bombs) inside different reserve forest areas to enrich food stock for wild elephants to prevent man-elephant conflict.

### **Creative ways to reduce human-wildlife conflict**

- ❖ **Strobe Lights:** to scare off destructive nocturnal wildlife, farmers increasingly rely on automatic light machines. Half strobe light and half motion sensor, the machines flash beams of light randomly in all directions to mimic a farmer with a flashlight.
- ❖ **Natural Barriers:** Elephants dislike the chemical capsaicin found in chili peppers, prompting farmers in Tanzania to smother their fences with a mixture of oil and chili peppers. In addition to a spice aversion, elephants are also terrified of bees. This realization has led to the construction of bee fences around farms to keep marauding pachyderms out
- ❖ **Disguise:** Villagers in India have had recent success preventing tiger attacks by exploiting their knowledge of big cat behavior. Tigers stalk their prey and attack from behind, so forest workers began wearing masks on the back of their heads to prevent sneak attacks
- ❖ **Electricity Solar powered electric fences:** It help in keep crop-raiding elephants out of fields in Africa, while wildlife managers in Alaska use tasers to deter moose and bears that have become habituated to humans. Conservationists in India have even tried to discourage tiger attacks by rigging human shaped dummies with electricity.
- ❖ **Texting Elephant:** tracking collars embedded with SMS chips automatically text nearby residents, warning them of recent elephant movements. Before the project was implemented, a lack of awareness of elephant whereabouts played a roll in 75% of elephant-attributed human deaths in the region.
- ❖ **Corridor:** One way to reduce conflicts with wild animals is by guiding their movements in developed areas. Wildlife corridors, areas of preserved native habitat in human dominated regions, provide wildlife with a safe pathway as they travel between larger areas of intact habitat. By placing corridors away from potential conflict hotspots, such as farms or ranches, animals can be steered out of harms way and instances of human-wildlife conflict can be proactively avoided.
- ❖ **Mapping Using GPS tracking collars and GIS mapping software:** Researchers can identify hot spots where human-wildlife conflict is likely to occur
- ❖ **Ecotourism Poverty exacerbates human-wildlife conflict:** A rouge animal that destroys an impoverished farmer's crops essentially destroys their livelihood, so it is not surprising that such conflict can inspire outrage and negative views of conservation efforts. Ecotourism can combat this reaction by assigning a monetary value to wildlife.

### **Conclusion**

Human-wildlife conflict presents a complex and pressing challenge that demands collaborative, multidisciplinary solutions. As human populations expand and habitats shrink,



encounters between people and wildlife become inevitable, leading to conflicts that threaten both human livelihoods and biodiversity conservation efforts. Effective mitigation strategies must prioritize the needs of both communities and wildlife, employing a combination of technological innovation, policy interventions, community engagement, and conservation education. By fostering greater understanding, empathy, and coexistence between humans and wildlife, we can strive towards a future where conflicts are minimized, ecosystems are preserved, and both human and animal populations thrive in harmony.

