

# Navigating Human-Wildlife Conflict around Protected Areas: Insights from the Tipeswar Wildlife Sanctuary, India"

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## Abstract

This research exercise delves into the intricate dynamics of human-wildlife conflict within the context of the Tipeswar Wildlife Sanctuary in India. The delicate coexistence of humans and wildlife has long been a conservation concern. The study focuses on the unintended consequences of the rehabilitation process, aiming to resettle human populations from critical habitats to safeguard both resident wildlife and local communities. The escalating man-animal conflict, particularly involving tigers, highlights the complexities that arise from such efforts. Drawing from experiences in the Tipeswar Wildlife Sanctuary, this study contributes to the broader discourse on human-wildlife interactions, offering valuable insights for effective conservation strategies benefiting both wildlife and local communities.

**Keywords:** human-wildlife conflict, conservation, rehabilitation, coexistence, wildlife sanctuary, India, tiger behaviour, ecological dynamics, socio-economic impacts, mitigation strategies, protected areas, man-animal conflict, harmonious coexistence, community engagement.

## Introduction

The coexistence of humans and wildlife around protected areas and connected landscape has long been a subject of conservation concern, especially in regions of high biodiversity and ecological significance (Woodroffe, 2000; Redpath et al., 2015; Treves & Karanth, 2019). The Tipeswar Wildlife Sanctuary, a small, protected area spread over 148.63 km<sup>2</sup> and located at 78°20'22" to 78°47'56" East and 19°50'59" to 19°55'44" North, nestled in the heart of India, represents such a critical ecosystem where the delicate balance between human settlements and wildlife conservation is being tested (Johnsingh, 2001; Jhala et al., 2009; Sharma et al., 2018). As global efforts to safeguard natural habitats intensify, the rehabilitation of human populations from these areas aims to protect both the resident wildlife, particularly the emblematic tiger species, and the local communities (Barua et al., 2013; Agrawal, 2014; Bhatnagar et al., 2013). However, this well-intentioned process often yields complex and unexpected outcomes, as seen in the escalating man-animal conflict around the sanctuary and associated landscape.

This study delves into the intricate equation of loss that characterizes the rising man-animal conflict in the Tipeswar Wildlife Sanctuary. Through a comprehensive analysis of historical trends, ecological shifts, and socio-economic impacts, this research seeks to unravel the multi-faceted nature of the conflict and illuminate the interplay between human resettlement, tiger behavior, and conservation efforts (Rajvanshi et al., 2018; Madhusudan & Mishra, 2003; Mishra et al., 2017). By examining the unintended consequences of the rehabilitation process and the subsequent implications for both humans and tigers, we aim to shed light on the underlying dynamics that drive this conflict and propose strategies for a harmonious coexistence.

## Material and Methods

This study entails a comprehensive analysis of available data and draws extensively from on-ground experiences within the Tipeswar-Pandharkawada landscape.

## Results and Discussion

### Tiger Population Dynamics and Human-Tiger Interactions

The rehabilitation process within the Tipeswar Wildlife Sanctuary aimed to resettle villagers from the protected area, thereby reducing human pressure on shared resources and promoting wildlife

conservation (Barua et al., 2013; Agrawal, 2014; Mishra et al., 2017). However, the unintended consequences of this process have manifested in the form of a complex web of man-animal conflict. The tiger population within the sanctuary experienced exponential growth in the aftermath of rehabilitation, transitioning from a mere 2-3 individuals in 2015 to a staggering 35 tigers in the Tipeswar-Pandharkawada landscape. This marked increase can be attributed to reduced reproductive pressures due to decreased human interference and increased availability of prey (Rajvanshi et al., 2018; Treves & Karanth, 2019).

As tigers attain subadult stage they venture out in search of new territories, they are forced to traverse into the human-dominated landscapes surrounding the sanctuary. This dispersion, while a natural behaviour, results in a shift in feeding habits from wild herbivores to cattle, which are readily available and easier to hunt. This shift amplifies the frequency of human-tiger interactions, contributing significantly to the escalating conflict. Over the last five years, approximately 1500 cattle have been killed by tigers, causing substantial financial loss to the local communities and triggering resentment towards the tigers (Madhusudan & Mishra, 2003; Treves & Karanth, 2003; Mishra et al., 2017).

### **Socio-Economic Consequences and Negative Sentiments**

The increase in human-tiger interactions has led to tigers losing their natural fear of humans, escalating the likelihood of attacks on livestock and humans. This, in turn, provokes retaliatory measures from humans, further intensifying the conflict. Notably, within the seven years following rehabilitation, reported human fatalities surged to 25, a stark contrast to the solitary incident before the rehabilitation process began. Furthermore, the number of injuries sustained by humans in the last five years skyrocketed to 300, illustrating the surge in tiger attacks on humans, a phenomenon previously uncharacteristic of the area (Chapron et al., 2014; Redpath et al., 2013).

Intensive habitat development initiatives, such as creation of meadows and artificial waterholes, intended to benefit wildlife, have inadvertently exacerbated the conflict. These interventions provide secluded spaces for tigers to thrive and multiply, leading to continuous spill-over into the surrounding fragmented landscape. Concurrently, the resulting increase in herbivore populations, such as wild boars, blue bulls, and deer, drives these animals into nearby agricultural fields, causing crop damage. This indirect consequence further intensifies negative sentiments towards tigers, as local communities associate them with economic losses (Odden et al., 2016; Carter et al., 2012).

### **Implications and Mitigation Strategies**

The equation of loss in the Tipeswar Wildlife Sanctuary underscores the delicate balance between conservation efforts and human livelihoods. The unintended outcomes of the rehabilitation process reveal the need for a comprehensive approach that considers both ecological and socio-economic dimensions (Treves & Karanth, 2003; Redpath et al., 2015). To mitigate the escalating conflict, several strategies emerge. Firstly, refining rehabilitation methods to incorporate socio-economic impacts and community engagement is imperative. (Jhala et al., 2009; Sharma et al., 2018). The predictive analysis of tiger population trends and their potential influence on the surrounding fragmented landscape becomes an essential factor in the preliminary stages of designing resettlement programs.

Additionally, habitat development initiatives must be approached cautiously, with an emphasis on maintaining ecological equilibrium and preventing unintended consequences. Furthermore, awareness campaigns can foster understanding and empathy between local communities and wildlife, reducing retaliatory actions and promoting peaceful coexistence (Carter et al., 2012).

### **Conclusion**

The equation of loss within the Tipeswar Wildlife Sanctuary serves as a poignant reminder that conservation efforts should not neglect the intricate web of interactions between human populations and wildlife. As we strive to protect and preserve our natural heritage, a holistic understanding of ecological, social, and economic dynamics is paramount. By learning from the experiences of Tipeswar, we can forge a path towards sustainable coexistence that benefits both wildlife and human communities.

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