



HUMAN-WILDLIFE CONFLICT IN NORTHERN CHHATTISGARH

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ABSTRACT:

There has been a significant increase in human-wildlife conflicts in the forests of northern Chhattisgarh. Studying this spatial pattern of conflict and the causes behind it is necessary to develop and adopt mitigation strategies. Deforestation in the surrounding states of Orissa and Jharkhand is forcing wildlife, especially elephants, to migrate into the forests of Chhattisgarh. The increasing numbers of elephants in the forests of northern Chhattisgarh and encounters with elephant populations in these forests have become a characteristic phenomenon of the region. The loss of life and property has prompted planners and researchers to conduct in-depth studies of human-animal encounters in the area. Temporary data on life and property loss from human-wildlife conflicts suggest that losses are gradually increasing and mitigation strategies are urgently needed. This paper is an attempt to assess the severity of human-wildlife conflicts in the study area and suggest measures to reduce the loss of wildlife life and property. Secondary and tertiary data for this study were collected from newspapers, articles, and surveys by individuals, non-governmental and governmental organizations. In this study, researchers found an increase in the number of human-wildlife conflicts, resulting in an increase in property and loss of life. suggests that human encounters with wildlife should not be violent and that their encounters should be managed in ways that prevent potential loss.

KEYWORDS: Wildlife, space, relaxation, deforestation, time

INTRODUCTION:

Before the emergence of human civilizations such as the Indus Valley and Aryan civilizations and the consequent invasion of Indian forests, wild flora and fauna were abundant. Human interference with wildlife's natural habitat has led to human-wildlife encounters. Peace-loving wildlife such as elephants, tigers, and bears met people. This encounter was violent and caused loss of life and property. Generally, these wild animals attack animals only to eat and are calm in their natural habitat. But people were afraid of these animals and used violent methods to avoid wild animals. These methods irritated wildlife and took more lives and property from people and livestock. Shrinking wildlife habitats are bringing humans and animals closer together, increasing the chances of conflict. These adverse conditions are a distinctive feature of

the forests of northern Chhattisgarh. Sal and bamboo forests in northern Chhattisgarh have deciduous plants. Important fauna in these forests are elephants, tigers, sloth bears, deer, chital deer, leopards, nilgai and jackals. The forests of northern Chhattisgarh act as a link between the forests of Madhya Pradesh and Jharkhand. Hence, there is a continuous forest area from Bandhavgarh in Madhya Pradesh to Param in Jharkhand. Wildlife roams haphazardly in this wooded area, regardless of state political borders. Deforestation in some of the wild animals' natural habitats is forcing them to move elsewhere in their woodlands. Interestingly, this forest area is rich in natural resources, and state deforestation is more common in the area than single-tree felling. In this paper, researchers sought to examine different aspects of human-wildlife conflicts and possible ways to stem property and life loss from human-wildlife conflicts.

STUDY AREA:

The study builds on news and previous research on human-wildlife conflicts in the forests of northern Chhattisgarh. Northern Chhattisgarh is famous for its moist deciduous forests and bamboo forests. Many animals and plants live here. There are many game reserves in the area. B. Guru Ghasidas National Park, Semarsot, Tamor-Pingla Wildlife Sanctuary. Although the continuity and density of forests in northern Chhattisgarh has long declined, these forests still retain pristine wild flora and fauna. Geographically, the area is hilly. This is an extension of the Vindhyan and Satpura systems. The northern hill country accounts for 21% of the total area of Chhattisgarh. It includes Korya, Sargja, Surajpur, Balampur, Jashpur, Raigarh and Korva districts of Chhattisgarh. The total area of these districts is 41858 km² and the forest area of these districts is 19297 km². North Chhattisgarh has a forest coverage of 46.1%, higher than the national average of 41.09%. The geologically north hilly region of Chhattisgarh has strata from Archean, Dharwar, Kudappa, Vindian, Gondwana and later. The physiographic divisions of northern Chhattisgarh are Lihand Basin, Kanhal Basin, Surguja Basin, Samri Pat, Jashpur Pat, Main Pat, Chambakar-Deogar Hills and Churi-Udaypur Hills. A tropical climate and rolling hills support forest development here. Sal, teak and bamboo are the most common plant species in northern Chhattisgarh. Other important tree species here are Anjar, Arjuna, Anola, Bahera, Bija, Dhaman, Dhaora, Haldu, Khair, Kusum, Mahua, Palas, Saja, Safai, Semal, Siris, Sisham, Tendu, Tinsa, etc. The forests of northern Chhattisgarh are home to many species of animals including tigers, elephants, bears, chital deer, jackals, antelopes, bison, monkeys, deer, wild boars and many other reptiles and birds. These forests contribute to state and national biodiversity. Many human settlements are also located in these forests, making them more vulnerable to attack by wildlife.

OBJECTIVE:

This study aims to explain the patterns and causes of human-wildlife conflicts in the forests of northern Chhattisgarh and to stop such violent encounters in order to stem property and life loss. It also contains suggestions for Therefore, the purpose of this study is to find out.

1. Temporal patterns of human-wildlife encounters in the study area.
2. Causes of human-wildlife conflicts in the study area.
3. Some techniques to limit the loss of life and property from human-wildlife conflicts.

METHODOLOGY:

This research paper is based on data and information collected from newspapers, magazines, and various studies by individuals, governments, and non-governmental organizations. A descriptive analysis of these data was performed to find the ideographic results of the analysis.

DISCUSSION:

Human-wildlife interaction is an as old phenomenon as the evolution of humans from primates. Human-wildlife interaction may become a conflict whenever it causes depredation. Since the advent of mankind near wildlife, their conflict for existence, food, and shelter has been noticed by many scholars. **N. Gureja, A. Kumar and S. Saigal (2003)** found that human-wildlife conflict is the result of human encroachment into wildlife territory. This view is supported by almost all scholars in the related discipline. But, human encroachment in wildlife areas is a modern concept, and the history of the evolution of homo sapiens does not support this view. Both wildlife and mankind grew in forests and both were dependent on forests for food and shelter in the beginning. In course of time, mankind learned to crop food and their dependence on forest products and wildlife for food and clothes depleted. It was the time when humans settled far from wildlife territory. So, human encroachment in wildlife territory is not the single factor behind the human-wildlife conflict. The most important factor behind the human-wildlife conflict is the separation of humans from wildlife and the consequent lack of adaptation in a wild environment. In these circumstances whenever there is an interaction between humans and wildlife, they do not trust each other and the sense of being in danger leads this interaction to a conflict. **Sefi Mekonen (2020)** argued for peaceful co-existence between humans and wildlife. This co-existence can only be maintained when humans learn to live with wildlife in the forest environment without harming wild animals. Livestock-Carnivore conflict is one of the most common forms of Human-Wildlife conflict (**Inskip and Zimmermann, 2009**). **L. Volski, A. McInturff, K. M. Gaynor, V. Yovovich, and J. S. Brashares (2021)** during their experiment

on carnivores with non-lethal tool fox light, found that the human perspective must be acknowledged during government-added support to stop human-wildlife conflict and peaceful co-existence. So, the study of socio-ecological systems or SES (**Ostrom, 2009**) is necessary to implement the plans for the protection of domestic animals and human life and property from wildlife.

FINDINGS:

The development of mining and industry in the mineral-rich forests of Orissa and Jharkhand has led to the destruction of natural habitats for wildlife, especially elephants. Large numbers of mastodons lived in the forests adjacent to the forests of Orissa and Jharkhand in northern Chhattisgarh. In 1988, elephants migrated from the main elephant habitat of Jharkhand to Chhattisgarh, causing major damage to life and property for the first time. Elephants have been trespassing in Chhattisgarh regularly since 1995, disproving previous trapping theories. Since 2000, conflicts between humans and elephants have increased as more elephants migrate into Chhattisgarh. Elephants could enter Chhattisgarh through three main points:

a) Southwestern forests of Jharkhand, b) Northwestern forests from Sundergarh Ranges (Orissa) to Tapukara Ranges, and c) Northwestern Himgir Ranges from Sundergarh Ranges (Odisha) to Raigal Ranges. forest. Nearly all areas where elephant migrations have been documented in Chhattisgarh have been affected by human-wildlife conflicts. After visiting these areas to survey damaged properties and interviewing affected villagers, most seem to claim more damage than was caused by elephants. Another animal involved in human-wildlife conflicts in the forests of northern Chhattisgarh is the bear. However, conflicts between humans and elephants are very common in these forests. The human-elephant clashes in his four thriving forest areas in Chhattisgarh are South Surguja, Kathgora, Kolva, and Dharam Jaigarh, and his two coalfields of Hadeoaland and Mandraigal. All four of these forest plots are within the scope of this study. Between 2005 and 2013, in Chhattisgarh, he killed 198 people and his 14 elephants, most of them in the study area. Between 2005 and 2013, the state recorded 8,657 property damages and the 99,152 crop damages. The number of human deaths from elephant attacks in the study area has increased eight-fold since 2005, averaging 25 deaths per year. (**Greenpeace, 2015**) In 2016, the number of human fatalities from human-wildlife conflicts in the study area was 52. Most of these were attributed to elephants. (**Hindustan times, January 7, 2017**)

The main types of human-wildlife conflicts in the study area are:

1. Injury or death from wildlife encounters.
2. Damage to standing or plantation crops.
3. Damage to harvested and stored crops. It often involves damage to storage facilities.
4. Property damage to sheds, houses, plumbing, irrigation systems, etc.
5. Casualties of cattle and other livestock.
6. Injuries and deaths of elephants due to retaliatory attacks by humans, mainly due to electric shock and poisoning from power lines.
7. Elephant death due to train collision.

There are many reasons for conflicts between humans and animals. Some sources of human-wildlife encounters leading to conflict in the study area include:

1. The main reason elephants invade areas of human exploitation is to eat agricultural and plantation crops.
2. The second reason is water that damages things and people.
3. Forest humans are placed in front of Tusker's migration path.
4. Some foods and beverages used by humans attract wildlife.
5. Wild boar densities are increasing in the eastern part of these forests.
6. Some expelled pachyderms are notoriously violent, causing death and property loss.
7. Human logging and gathering activities in forests.
8. Developmental activity in elephant migration routes.

The severity of human-elephant collisions (HEC) varies from very rare to chronic. Elephant population density plays an important role in HEC intensity. The nature of the interface between human lands and elephant habitats also determines the intensity of conflict, and irregular and diffuse boundaries with long perimeters are thought to increase conflict intensity. The highly fragmented habitat of elephants and the scattered areas of human use can also increase the frequency and intensity of the conflict. In some cases, scattered herds migrate into vast agricultural habitats with little forest, causing intense conflict, at least in the early stages. In some areas, agricultural damage is low and conflict is primarily due to loss of life.

SUGGESTIONS:

The Chhattisgarh government has made many attempts to reduce human-animal conflict. Some of these steps are listed below.

1. Install barriers around forests and human settlements near forests.
2. Armed with vehicles, flares, sirens, firecrackers, and sometimes double-barreled guns, anti-looting squads protect farms and human settlements from wild animals.

3. The elephant herd is being returned to the forest by the Forest Service to end the human-animal conflict.
4. Kunki elephants were recently brought from Karnataka by the Chhattisgarh government to teach the local elephants to stay away from human settlements.
5. In October 2018, the Chhattisgarh State Forestry Department wirelessly collared wild elephants to help build an early warning system.

Several community-based approaches have also been introduced to end the human-wildlife conflict. This community-based approach includes the use of local repellent techniques, SMS alerts, and chili-based deterrence techniques such as chili rope and chili smoke.

These techniques have been partially successful, increasing the loss of life and property from human-wildlife conflicts. Therefore, there is a need for more comprehensive planning to deal with human-wildlife encounters. Some suggestions made by researchers based on the nature of human-wildlife conflicts in the study area are:

1. Regular barrier maintenance.
2. The barrier must be complete. H. No gaps.
3. Barriers must be properly placed. Do not enter the migration path of elephants.
4. It is important to involve local people in the construction, maintenance, and replacement of barriers.
5. Loud noises and firecrackers are not good repellents as they can irritate elephants.
6. Wasp calls and carnivore calls are more effective defenses for elephants. Carnivorous sounds are also effective in repelling bears.
7. Drones, beehive fences, sensor-based alarm systems, and satellite imagery are some of the new and effective technologies in use in the West that need to be put into practice here.

CONCLUSION:

The current work is an attempt to elucidate the spatial and temporal patterns of human-wildlife conflicts in the forests of northern Chhattisgarh. The researcher has found that the conflict between humans and wildlife, especially elephants, is increasing year by year. The government has made many attempts to end this conflict, but these measures have been partially successful and do not guarantee the protection of people, pets, and property. We need a more effective and comprehensive way to end the biological conflict. Researchers have proposed several effective ways to protect human life and property from wildlife. These methods have been successful in Western countries and should be adopted in Chhattisgarh to manage human-animal conflicts.

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