



(RESEARCH ARTICLE)



Human-wildlife conflicts (sudden increase in tiger attacks on humans) in adjacent areas of Corbett National Park Ramnagar Uttarakhand, India (from November 2023 to January 2024)

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Abstract

Human-wildlife conflicts become a common problem in Ramnagar tehsil of district Nainital in Uttarakhand state in India. The incidence of tiger attacks has suddenly increased in the villages adjoining Corbett Park, Ramnagar Forest Division and Tarai-West Forest Division during three months of winter (from November 2023 to January 2024). Tiger hunger, unavailability of adequate food (Cheetal/Sambar, etc.), man-eaters tigers, increasing population density of tigers, old age tigers with worn and broken claws, disturbance of their alertness and breeding (by noise of safari, bike and public vehicle), large herds of Cheetal in villages near the forest, foreign tiger in this area, need for tiger territory in buffer area (shrinking territory) etc. are main reasons for tiger attacks in these incidences. Both humans and tigers are affected by these conflicts. After these incidents, the Forest department cut small trees and bushes on both sides of the road from the buffer area (about 20-30 feet) and the road has become clear. With this, the tiger will not be able to hide in the bushes on the roadside and sit in ambush, and tiger attacks will be reduced.

Keywords: Human-wildlife conflicts; Shrinking territory; Revenue; Aggressive; Livestock

1. Introduction

Human-wildlife conflicts are often caused by human population increase, high livestock and wildlife population densities, and changing land use and climate (Mukeka, *et al.* 2019). Conservationists are becoming increasingly concerned about the pervasive issue of conflicts between human and wildlife interests, especially as it relates to large carnivores that have the potential to harm both cattle and people (Somu & Selvaraj, 2022). Human-wildlife conflict arises when interferes with human goals, or when human goals interfere with the needs of wildlife over the needs of local people, aggravating the worldwide problem (Meena, *et al.* 2022).

Ramnagar tahsil comprises 146 villages (834.36 Km² rural area) with a small town (2.43 Km² urban area) located in district Nainital of Uttarakhand (Ramnagar Tehsil, Nainital District). Ramnagar is famous for Garjiya Devi temple (at Kosi river) and Jim Corbett National Park (1936). The major portion of Corbett Park is located in the Nainital district (355.75 Km²) and Pauri Garhwal (912.62 Km²) while the rest is in the Almora district (19.95 Km²) of Uttarakhand. Corbett National Park is famous for the presence of a rich number of Royal Bengal Tiger (Khati, 2008).

The Corbett Park has corridors with Ramnagar Forest Division (RFD) and Tarai West Forest Division Ramnagar. The five ranges of Ramnagar Forest Division are Kosi, Kaladhungi, Fatehpur, Dechori, and Kota and its total area is 487.36 Km² (Sood & Pant, 2019). The second forest division is the Tarai West Forest Division with four ranges named Dhela, Bannakheda, North-Jaspur, and Bailparao range. The Pawalgarh Conservation Reserve (58.24 Km²) was established in 2012 from some ranges from Ramnagar Forest Division and from Tarai West Forest Division (new name is Seetabani

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Conservation Reserve dated 22-Jan-2024) (Sati, 2024). The wild animals can freely move from Corbett Park to RFD and Tarai West Forest Division.

According to a report given by Azad S. (2023), three forest divisions in Uttarakhand other than Tiger Reserve leading with 67 tigers in Ramnagar Forest Division, 53 tigers in Tarai East Forest Division, and 52 tigers in Tarai West Forest Division.

In Ramnagar Forest Division, the high human pressure coupled with developmental activities, not only degrades wildlife habitats but restricts the dispersal of wild animals particularly in multiple-use managed forests (Ahmad, *et al.* 2018). Human-wildlife Conflict incidents often occur in villages adjacent to forest ranges and it becomes a common problem in Ramnagar. At present, incidents of tiger attacks have increased rapidly in villages near to forest division in Ramnagar. Earlier in the year 2016, there were 5 major attacks (2 deaths and 3 severe injuries) in the Gorakhpur-Karanpur (Kaniya) village of Ramnagar area due to a man-eater tigress (Ramnagar, 2016).

2. Materials and Methodology

2.1. Study area

The study area comprises villages attached to forest ranges (areas with a high risk of tiger movement) these are Dhela, Sawaldehy, Himmatpur-dotiyal, Kaniya, Karanpur, Hathidangar, Maldhan (Kumbhghadar, Shivnathpur nai & Purani Basti, Hanumangarhi, Natthawali), Patrani, Aamdanda, Dhikuli, Chukum and Sunderkhal in Ramnagar tahsil of district Nainital of state Uttarakhand (India).

The dominant vegetation in forest and roadside areas are Saugon and Eucalyptus plantations, with mixed trees of Sal, Shisham, Haldu, Semal, Rohini, Bamboo, Lantana, Peelu, Kari patta, Jujube, and grasses like Sawai grass, Ganeria grass, Sarkanda and Dub grass (under the trees). In November and December month fortunately the mixed forest remains green and very dense by the presence of bushes and evergreen tree species. Therefore the tigers have a maximum chance to hide in these bushes for predatory attacks. The major crops in the agricultural fields of villagers are Sugarcane, Wheat, gardens of Mangoes and Litchi, vegetables like green peas, Chickpeas, Sarsho, and green vegetables, etc. So the deers and other herbivores come in these villages for crops and vegetables. The Cheetal, Sambar deer and Nilgai are commonly found in these villages near the houses for green food.

2.2. Collection of Primary and secondary data

The three-month study is done in the winter season (from November 2023 to January 2024) in Ramnagar. The primary data collection is done by field surveys in villages near to forest of Ramnagar, case studied of tiger attacks and the secondary information is from local newspaper reports and published literature about incidents of man-wildlife conflicts and their effects on human beings and wildlife.

3. Results and Discussion

During the three-month study, the following major attack incidents occurred in the study area.

Table 1 Incidents of Tiger Attacks with Location in Ramnagar (From 20th November 2023 to January 2024)

Sr. No.	Incident Location (village)	Nearest Forest Range	Number of victims to attack	Death/Injury
1	Kargil Patrani (in buffer forest area)	Sawaldehy-East Beat, Dhela, Jhirna, and Bijrani range of Corbett National Park	1 (Female)	Death
2	Dhikuli road site (while clearing bushes)	Dhikala and Sarpduli range of Corbett National Park	2 (Male labours)	Death

3	Hathidangar (Near Gurudwara, fusion point of Kosi canal and Dhela river) (at Agriculture field)	Tarai-West Forest Division Ampokhra (Ramnagar Forest Division)	1 (Female)	Death
4	Hathidangar-Maldhan Forest (near road site)	Tarai-West Forest Division (Ramnagar Forest Division)	1 (Male)	Severely injured
5	Narsinghpur-Dharampur Chowk near the Punjabi Shamshan (on a bike)	Dhela range of Corbett National Park and Tarai-West Division Ampokhra	2 (Male)	injured
6	Chukum (near Mohan Ramnagar)	Dhikala range of Corbett National Park	1 (Male)	Death
7	Sawaldey (Kaniya-Ramnagar)	Dhela range of Corbett National Park	1 (Female)	Death

*The tiger also attacked about 10 livestock of villagers in the buffer area (Ramnagar, 2023)

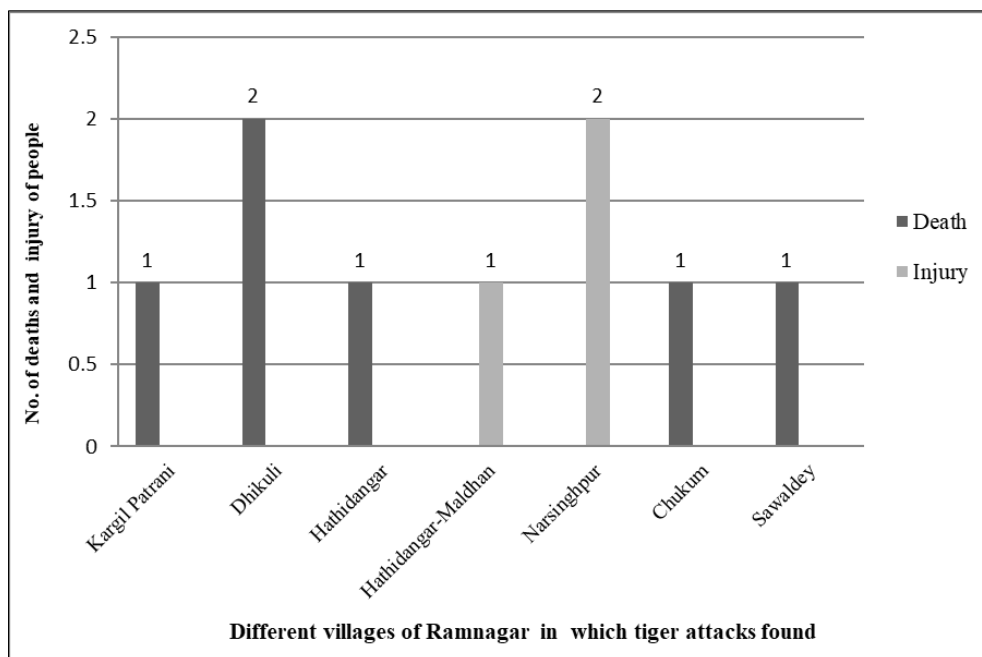


Figure 1 Number of Death and Injury in different villages of Ramnagar (Nainital) Uttarakhand

3.1. Reasons behind Tiger attacks near the buffer forest

- In point of wild animals:** The following are the reasons for tiger attacks on humans: Hunger, unavailability of adequate food (Cheetal/Sambar, etc.), man-eaters, disturbance of their alertness and breeding (by the noise of safari, bike, and public vehicle), old age tiger with worn and broken claws, large herds of Cheetal in boundaries area of forest, foreign tiger in this area, training to kids (baby tiger) to attack on prey, attack by misunderstanding/ by confusion of prey (animal), to increase their territory in buffer area as the density increase in Corbett National Park (by shrinking territory) to avoid the male-male conflicts.
- In point of Human beings:** Rural women and men go to the forest every day to cut grass/ green leaves (for their livestock), collect dry wood (mainly in the winter season), to steal honey and some medicinal plants/bark. Dry wood is used at home for cooking and warming hands in cold weather. Therefore, the main reason for all these attacks is the direct entry of rural people into the forest. Incidents of conflict also occur while passing through the roads built in the buffer area.

3.2. Effects of Human-Wildlife Conflicts

3.2.1. Effects on Wild Animals

In case of conflict, the animal also gets injured, trapped, poisoned, disturbed, become more aggressive, affects their breeding, and may even die. Due to this, the population of predators (tigers) starts declining and the food chain gets disturbed, which can disturb the forest ecosystem. In these attacks, the villagers declared the particular tiger a man-eater and expressed anger toward the tiger. People also hunt wild animals, which increases the threat to their species. Two tigers have already been caught by the forest department; the first one is from Sawaldehy and the second one is from Chukum area. These tigers have been kept in the rescue centre at Dhela.

3.2.2. Effects on Human beings

Humans are at risk of their lives in conflicts as tiger attacks have resulted in serious injuries and even death. There is an atmosphere of panic in these villages. Villagers leave their homes only after the sun rises and are bound to return home before the sun sets. Because the chances of a tiger attack are highest in darkness. Due to tigers roaming on the road, it has become very difficult for people to go to work. This has affected the daily routine and work of the villagers. The livestock of villagers are also at risk. The forest department has provided relief and treatment to many victims of tiger attacks and such attacks are draining the department's revenue. The news of these attacks creates a sensation among the tourists coming to visit Corbett and the attraction for tourists decreases. Human being also becomes the enemy of wild animals and kills them and sells their meat and smuggling of their body parts also starts.



Figure 2 Photos of cleaning the forest by cutting roadside bushes and small trees after the tiger attacks at Tarai-west forest division Ramnagar

4. Conclusion

In this paper, the causes and consequences of tiger attacks have been revealed from animal and human points of view. During the winter season (in three months), 6 people died and 3 people were seriously injured in tiger attacks in forest side villages in Ramnagar and more than 10 cattle also died in these villages. Both tigers and humans have suffered losses in the Human-wildlife conflicts in this area. After these incidents, the Forest department cut small trees and bushes on both sides of the road from the buffer area (about 20-30 feet) and the road has become clear. With this, the tiger will not be able to hide in the bushes on the roadside and sit in ambush, and tiger attacks will be reduced.

Compliance with ethical standards

Disclosure of conflict of interest

The authors report no declarations of interest.

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