

Human-Wildlife Conflict in High Altitude: a case from Gaurishankar Conservation Area (968 m – 7181m amsl), Nepal

Abhinaya Pathak¹, Saneer Lamichhane², Maheshwar Dhakal³, Ajay Karki³, Chetri Madhu⁴, Jeffrey Mintz⁵, Prakash Pun⁶, Pramila Neupane⁶, Tulasi Dahal⁷, Trishna Rayamajhi⁸, Prashamsa Paudel⁹, Pramod Regmi⁷, Shankar Thami⁴, Ganesh Thapa¹⁰, Ashim Thapa³, Suraj Khanal¹¹, Supriya Lama¹¹, Jenisha Karki¹¹, and Arockia Ferdin¹²

¹Ministry of Forest and Environment, Nepal

²Birat Environment Service

³DNPWC

⁴GCAP

⁵USGS

⁶GCA

⁷National Trust for Nature Conservation

⁸Cornell University

⁹Tribhuvan University

¹⁰Division Forest Office

¹¹KAFCOL

¹²NDHU

October 17, 2023

Abstract

The human-wildlife conflict (HWC) is a serious problem that affects both human and wildlife populations worldwide. This study investigates the prevalence and increasing trend of HWC in the Gaurishankar Conservation Area (GCA) of Nepal, with a specific focus on leopard (*Panthera pardus*) and Himalayan black bear (*Ursus thibetanus laniger*) as conflict-causing species. The study analyzes a decade of HWC data and identifies goats as the livestock most targeted by leopards. The Dolakha district of GCA experiences the highest number of conflicts, highlighting the need for mitigation measures in the area. In GCA, livestock attacks alone accounted for 85% of compensation, with the remaining 15% for human injuries. Annual attack reports have shown a significant increase, with a 33% rise year-on-year. The rule change in 2076 BS led to 57 more attacks than expected based on the previous year's growth. While bear attacks showed no significant change post-rule alteration ($t = 0.725$, $p = 0.5105$), leopard attack reports surged from 1 to 60 annually, indicating a significant increase in reporting rates ($t = 9.77$, $p = 0.0097$). The findings emphasize the economic impact of HWC on local communities and suggest strategies such as increasing prey populations, promoting community education and awareness, enhancing alternative livelihood options such as eco-tourism, and implementing secure enclosures (corrals) to minimize conflicts and foster harmonious coexistence. This research addresses a knowledge gap in HWC in high-altitude conservation areas like the GCA, providing valuable insights for conservation stakeholders and contributing to biodiversity conservation and the well-being of both humans and wildlife. Keywords: Human-wildlife conflict; High altitude, Leopard; Himalayan black bear; Gaurishankar Conservation Area; Conservation intervention; Co-existence

Hosted file

GCA_HWC_MS_Nepal_10_16_2023 ECE3.docx available at <https://authorea.com/users/413308/articles/672741-human-wildlife-conflict-in-high-altitude-a-case-from-gaurishankar-conservation-area-968-m-7181m-amsl-nepal>