

Human Elephant Conflict and Mitigation Measures in Kanepokhari Rural Municipality, Morang, Nepal

Madan Bahadur Thapa



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Abstract

Madan Bahadur Thapa

Purbanchal University
College of Environment
and Forestrys

Email:

madanpost@gmail.com

Orcid

[https://orcid.org/
0009-0003-0481-0422](https://orcid.org/0009-0003-0481-0422)

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The research was conducted with the aim to explore the present status of human-elephant conflict and its mitigation measures being applied recently in Kanepokhari Rural Municipality (KRM), Morang, Nepal. Ward number six and seven of the KRM were selected as the study area due to recorded elephant presence in these areas. Data were gathered through questionnaire surveys and key informant interviews, with random sampling for the questionnaires. Perspectives on Human-Elephant Conflict (HEC) varied: (49%) observed a decline in incidents, 13% reported a worrying rise annually, and (38%) noted consistent occurrences over decades. Lack of habitat, lack of sufficient vegetation in the forest and migratory behavior of elephants were the major causes of HEC. Crop damage by elephant was higher in compared to physical damage, livestock damage and human casualties. The survey of 165 households showed that, there was a total economic loss of Rs2, 10,650 annually due to HEC. On average, each household were bearing the annual loss of Rs 1,483.25 due to crop damage by elephant. Paddy, maize, and millet were the primary crops, with maize notably standing out as the most frequently raided crop by elephants, partic^auaLrly in terms of its monetary value. The HEC had been observed to be tackled using traditional methods like employing drums and tin cans, raising vocal aaLrms, using firecrackers, and starting fires. Researching broader domains can improve understanding, aid better mitigation, and ease HEC, promoting coexistence in shared landscapes.

Key words: crop raiding, economic loss, human elephant conflict, mitigation measures

Introduction

The Asian elephant, *Elephas maximus*, is the only living species in its genus (Wilson & Reeder, 2005). It occupies just 5.4% of its historical range in Southeast Asia (Choudhury, 2008) and numbers between 41,410 and 52,345 individuals worldwide (Sukumar R., 2003). It's been listed as Endangered since 1986 (Choudhury, 2008) as it is facing threats like poaching and habitat loss. These elephants, vital for their ecosystems, consume around 150 kg of food daily (Vancuylenberg, 1977).

Human-Elephant Conflict (HEC) remains a burning issue globally, challenging conservation efforts and endangering both human lives and wildlife habitats (WWF, 2007). In Nepal, HEC has emerged as a serious issue, impacting local communities and elephant populations. The conflict arises from the interaction between expanding human settlements and diminishing wildlife habitats (Thouless et al., 2016; Calabrese et al., 2017).

The escalation of conflicts involving giant predators like Royal Bengal Tigers, Leopards, Lions, Snow Leopards, and Elephants poses a significant threat (Lamarque et al., 2009). As human and animal populations grow and habitats decline, confrontations over resources, including crops and livestock, have intensified (Ripple et al., 2017). This situation is exacerbated by habitat loss and fragmentation, leading to increased conflict occurrences (Perera, 2009).

HEC manifests in various forms, resulting in economic losses to agriculture, harm to humans and domesticated animals, and competition for limited resources (Madden, 2004; Ayyapan et al., 2016). In Nepal's protected areas, conflicts with large mammals like tigers, common leopards, rhinoceroses, elephants, and bears have been reported (Woodroffe, 2000).

The severity of HEC often results in retaliation by local communities, leading to the killing of wildlife involved in conflicts, further threatening endangered species and escalating the risk of species extinction (Madhusudan, 2003; Paudel, 2015).

Given the complexities and multi-faceted nature of HEC, effective mitigation strategies and local community engagement are crucial to fostering coexistence between humans and elephants in conflict-prone areas (Treves & Bruskotter, 2014; Roe et al., 2009).

In Nepal, where people and wild elephants coexist and frequently fight for the same resources, there has been continual conflict between the two species in recent years (Jha, 2010). One of the barriers to biodiversity conservation is HEC, the contact between people and elephants that has a negative impact on people, elephants, and the environment (Panta, 2013;). Since elephants are migratory animals, they travel from India across Nepal's eastern and western borders (Thapa & Dhakal, 2014; Panta, 2013; Yadav et al., 2014). This study was conducted in KRM due to documented elephant presence, aiming to dissect HEC patterns and impacts. It specifically sought to analyze the current status of HEC and identify the prevailing mitigation strategies within the area. It's important to note that while this research offers insights into the specific area, its findings might not universally represent the broader regional or national scenarios of human-elephant conflict.

This study was carried out in KRM because elephants are known to roam there, and the goal was to understand HEC plays out in daily life. It looked at the current situation and the ways people are trying to cope with or reduce these clashes. Still, the findings reflect this one area's reality and shouldn't be taken as a blanket picture of what's happening across the whole region or country.

Materials and Methods

Study Area

The study was conducted in KRM, Morang district of Nepal which is a municipality located along the East-West Highway with an area coverage of 83 km² consisting of seven wards (Figure 1). In this study, focus was mainly placed on wards number 6 and 7 due to their higher frequency of human-elephant conflict.

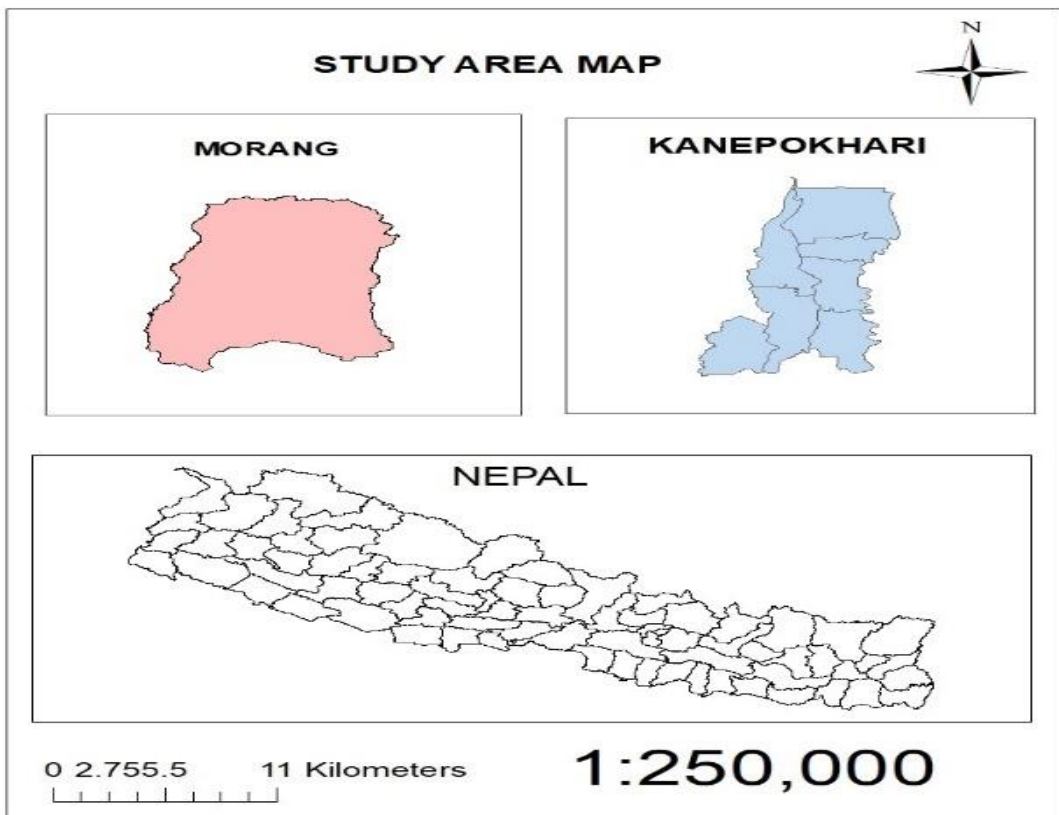


Figure 1: Study Area Map

Research Design

In the study, a combination of both the quantitative and qualitative approaches was used. The former included quantitative data collection involving human-elephant conflicts, while the latter included interviewing and discussions for assessing the views of the communities.

Data Collection Methodolog

The investigation was conducted in 2025, where field work was done in February. Interviews were conducted with local experts, and 165 households from wards 6 and 7 were selected through random sampling to provide personal accounts of HEC. One adult participant was selected from each household, and interviews were also conducted with farmers, women groups, and the youth.

The researchers did not conduct only surveys, but they also followed elephant trails, identified elephant feeding and resting areas, and quantified the crop and property damage. Field observation was conducted for fencing, trenches, and watchtower structures to give an idea about the efficacy of the existing deterrent methods. Thus, all these observations help to give a complete view of life with elephants.

Data Analysis

The information obtained by questionnaire was used to assess the crop loss. The following formulae were used.

$$\text{Total Crop Loss (kg)} = \text{Expected yield before crop loss} - \text{Actual yield after crop loss}$$

$$\text{Total crop loss (kg)}$$

$$\text{Crop Loss per Household (kg)} = \frac{\text{Total no. of Households Cultivating that crop}}{\text{Total crop loss (kg)}}$$

$$\text{Total Economic Loss (Rs)} = \text{Rate of crop per Kg (Rs)} \times \text{Total Amount of Crop Loss (kg)}$$

Results

Status of HEC

The study, encompassing 165 individuals, revealed a complex and varied perception of the trends in HEC) within the region (Table1).

Table 1:

Local Perceptions on the Trend of HEC

Perception of HEC Trend	Number of Respondents	Percentage of Respondents
Decrease in incidents in recent years	81	49.1%
No change; consistent over decades	63	38.2%
Increase in incidents and impacts annually	21	12.7%
Total Respondents	165	100.0%

Source: Field Survey, 2025

There are several perspectives that the community members hold about the Human-Elephant Conflict (HEC). Close to 40 percent believe that the situation has improved because of fewer cases in the past few years. On the other hand, a slightly aLrger segment, more than one-third of respondents, holds the view that the situation has not changed at all since the problems faced by humans because of the elephants have existed for several decades. There is another small segment consisting of 21 people that believes the situation has worsened over the years.

This mix of perspectives shows how experiences can differ widely depending on where people live and what they've faced. For some, there's cautious optimism; for others, it's a story of unchanging hardship; and for a few, it's a deepening crisis that threatens daily life.

Major Impacts of HEC

Major impacts of HEC in the research area were found to be crop loss, property loss, threats and disturbances. Results obtained by questionnaire indicated that, disturbances were the major impact of HEC followed by crop damage and property damage. Other negative impacts included threats and other damages.

Crop Loss

Major crops grown in the research area were found to be paddy followed by maize and millet. Beside these, farmers had grown betel nut, potato, mushroom, ginger and green vegetables. Out of 165 sample households, 134 cultivated paddy, 148 cultivated maize, and 90 cultivated millet.

The expected production of major crops paddy, maize and millet along with their actual production were noted as per the details provided by the respondents to find out the amount of crop loss in the research area.

Production of paddy in ward 7 and ward 6 of KRM is presented in Table 2. Ward 7 had an expected production of 83,700 kg but achieved 81,867 kg, resulting in a 2.19% loss of 1,833 kg. Ward 6 aimed for 71,300 kg, reaching 70,302 kg, with a 1.4% loss of 998 kg. Combined, the total expected production was 155,000 kg, but the actual production was 152,169 kg, resulting in an overall loss of 2,831 kg.

Table 2.*Total Annual Loss of Paddy (in Kg) (n=134)*

Ward No.	Total Expected Production (in kg)	Total Actual Production (in kg)	Total Loss (in kg)	Loss %
7	83,700	81,867	1,833	2.19
6	71,300	70,302	998	1.4
Total	1,55,000	1,52,169	2,831	

Source: Field Study, 2025

The total annual maize loss in kilograms across Wards 6 and 7 (Table 3): Ward 7 aimed for 55,536 kg, achieved 53,482 kg (a 3.7% loss), while Ward 6 targeted 47,381 kg, achieved 46,292 kg (resulting in a 2.3% loss). Combined, the wards aimed for 1, 02,817 kg, achieving 99,774 kg with a total loss of 3,143 kg.

Table 3.*Total Annual Loss of Maize (in Kg) (n=148)*

Ward No.	Total Expected Production (in kg)	Total Actual Production (in kg)	Total Loss (in kg)	%
7	55,536	53,482	2,054	3.7
6	47,381	46,292	1,089	2.3
Total	10,2817	99,774	3,143	

Source: Field Study, 2025

Annually local people from the sample households in the research area were bearing the loss of Rs 2, 10,650 in crops due to elephant. The major economic loss was found in Maize (Rs 849.45 per HH) which was followed by Paddy (Rs 633.8 per HH). On an average, each HH was bearing the annual loss of Rs 1483.25.

Loss of Property and Human Casualties by Elephant

Data from the District Forest Office, Morang, covering the nine-year period from 2072 to 2082 B.S., quantifies the severe impact of human-elephant conflict in the region. The records showed that these encounters resulted in 5 human fatalities, 3 serious injuries, and 6 general injuries. Furthermore, elephants were responsible for damaging property, crops, and food stores in 36 separate incidents, inflicting significant economic hardship on local communities.

Causes of HEC

Through comprehensive surveys and focused group discussions with local communities, the primary drivers HEC in the KRM area were identified. These causes are not isolated but are deeply interconnected, creating a complex and persistent cycle of conflict.

1. Scarcity of Suitable Habitats and Forest Fragmentation

2. Inadequate Food Sources within Forests

3. Utilization of Traditional Migration Paths: Elephants are unique creatures with very good spatial memory skills. For many years, they have been moving from one point to another along traditional routes to access food, water, and places of social interactions. Most of these traditional elephant routes are currently cut through village lands agricultural fields human settlements. The elephants are not invading new territories but rather sticking to the traditional paths that they have been using for a long time, only that the paths currently have human settlements in them.

The lives of elephants revolve around mobility and sociality. The adolescent males are forcefully ejected from their natal groups. The “adolescent” males move about extensively as they learn to cope alone, find partners, and establish their territories. Such

movements often lead to confrontation, particularly as the male elephants venture into territories occupied by humans, which they do not know well.

At the same time, the core of the elephant's social life is made up of herds. They roam about far distances led by the intelligence of a mature matriarch. They don't move aimlessly because their movements have purposes – to find sustenance for themselves and avoid inbreeding through intermingling of blood lines. In this respect, both lone bulls and family herds depend on mobility for survival and development of the species.

Mitigation Measures Applied for Minimizing HEC

It was found through survey studies and group discussions that the communities within the study area depend almost completely on traditional practices in order to prevent elephants from encroaching. Shouting, beating drums, lighting fires, and exploding firecrackers were some of the traditional practices identified as being the most common as well as the most effective in the short term.

This is because of the convenience, affordability, and instant response it draws from the animals in question. These sounds and flames are effective at exploiting the hearing sensitivity and natural fear of the elephants, allowing farmers to have a valuable resource to help save their livelihoods when needed most.

Risks of Reliance on Traditional Mitigation Methods:

Although the conventional scare tactics were extensively used because of their availability at hand, using them poses some future problems for both parties involved. Eventually, the elephants learn that all those sounds made by people such as shouts and beating of drums pose no actual danger. With such scare tactics becoming ineffective, farmers become forced to come even closer to animals in order to frighten them off, which results in sudden charges. There is an additional danger associated with using unpredictable

objects such as fire or firecrackers. Setting fires near forests during drought seasons increases the likelihood of forest fires that can destroy nearby fields and destroy natural habitat.

Attitude of Local People Towards Wild Elephants

From the data gathered through the questionnaire, it was discovered that more than 62% of respondents had negative perceptions about elephants due to the danger posed by them. They have negative perceptions about elephants because of the effects caused by HEC including destruction of their crops, damages to property, and death. The other (38%) of the respondents did not have any negative perception about the elephant. Among this 38%, few of the respondents based on religion had perceptions that they should not harm elephants. It should be taken into consideration that the (38%) could be neutral or positive about the elephants as well.

Reasons for Negative Attitudes towards Elephants

The reasons for negative attitudes towards elephants as reported by those respondents were described in Table 4 (n = 102). The main issue mentioned by 95% of negative respondents was the crop raiding followed by risk to human life and safety (78%) and stress (62%). Property damage was also an important issue (45

Table 4:

Primary Reasons for Negative Attitudes towards Elephants (n = 102 negative respondents)

Reason	for	Percentage	of	Example Respondent Quote
Negative Attitude		Negative Respondents		

Crop Raiding & Loss	95%	<i>"They destroy my entire paddy field in one night. This is our year's food and income gone."</i> - Farmer, Ward 6
Risk to Human Life & Safety	78%	<i>"We cannot go to the toilet at night for fear of encountering an elephant. We live in constant fear."</i> - Female homemaker, Ward 6
Property Damage	45%	<i>"A bull elephant destroyed the storage shed where we kept our harvest and tools."</i> - Local shopkeeper, Ward 7
Psychological Stress	62%	<i>"Even the sound of a dog barking at night makes my children cry, thinking an elephant is coming."</i> - School teacher, Ward 7

Source: Field Survey, 2025

While the 38% of the minority who were not pessimistic about elephants were varied in nature, they can be further classified into two groups of opinions. The former was comprised of people who had positive attitudes toward elephants, accounting for only 13%. Meanwhile, 25% were neutral toward elephants.

One of the qualitative results obtained from the interviews and open-ended questions was that religion and cultural beliefs acted as a vital mitigating factor for negative attitudes. This viewpoint was almost wholly expressed by the older members of the community.

Spectrum of Non-Negative Attitudes towards Elephants

Even though many community members had a negative attitude, the table below shows that there were various forms of positive attitudes, divided into three major categories: Positive/Tolerant, Neutral/Mixed Feelings, and Conditional Acceptance. These attitudes were strongly influenced by demographic factors, such as age and education, and were rooted in cultural, pragmatic, and conservation-based reasoning, as illustrated by the representative quotes.

Table 5:

Nature of Non-Negative Attitudes towards Elephants

Attitude Category	Demographic Trend	Core Reasoning	Example Respondent Quote
Positive / Tolerant	Older generation (>60 yrs)	Religious/cultural: Association of elephants with the deity Lord Ganesha.	worship Gajanaga esh). How can we harm we pray to? They are d, but we need a way to with them." - 72-year-old nunity elder
Neutral / Mixed Feelings	All age groups	Pragmatic/Ecological: Recognition of elephants' right to exist and their role in nature, despite the conflict.	"Yes, they destroy our crops, but this was their home first. The forest was cut down for us to live. The problem is complex." - 40-year-old member of

a Community Forest
User Group

Conditional Acceptance	Younger, educated individuals	Conservation Awareness: Support for conservation tempered by a demand for effective external support.	<i>"I don't hate elephants. I hate that the government provides no compensation or help with electric fences. We are left to fight this alone." - 28- year-old college student</i>
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Source: Field Survey, 2025

Discussion

Causes of HEC

Since many decades, wild elephants have occasionally caused difficulty for the local population in KRM area. The primary factors contributing to HEC in the study area included a lack of habitat, a lack of food in the forest, an old path, and elephants' propensity for migration. Both Bajracharya(2009) in Nepal and Kangwana(1995) in India identified similar causes of HWC. Other potential causes of HEC include habitat fragmentation, high human density, and nutrient-rich agricultural crops close to the settlement area (Balasubramanian et al., 1995).

According to the findings of Koirala et al. (2016), wild elephants predominantly consume a variety of vegetation including *Spatholobusparviflorus*, *Shorearobusta*, *Saccharum* spp.,

Sorghum spp., *Mallotus philippensis*, *Garugapinnata*, *Bambusa* spp., *Panicum* spp., *Listeamonopetala*, *Cymbopogon* Spp., *Phoenix humilis*, succulent plants, tree barks, shrubs, climbers, and creepers typically found in forested areas. However, the availability of these resources in the forests has become insufficient due to population growth. Consequently, elephants are believed to have migrated to agricultural lands. SimiaLr to this pattern, the primary attraction for these elephants to move towards agricultural areas lies in the nutrient-rich agricultural produce facilitated by the use of fertilizers. Wards six and seven in KRM faced issues with migratory elephants. Ward seven, having more forest cover, often sees elephant migration. The main cause of these elephant visits is the scarcity of food in the nearby forests.

According to the household survey, crop damage was the most common form of human-elephant conflict (HEC) experienced by the local community in KRM. This finding is consistent with earlier research by Campos-Arceiz et al. (2009) in Sri Lanka and aligns with documented HEC trends in India, as noted by Sukumar (1990). Crop raiding is an element of an elephant's ideal foraging strategy, according to Sukumar (1990), and it peaks during a certain period of the year when paddy becomes more appetizing and nutritious as it gets closer to harvest. In KRM, wild elephant crop destruction has a consistent seasonal pattern. The peak seasons of crop raiding are June-July during the maturing period of maize and November-December, during the paddy maturing time in the research area. This finding confirms the findings of Pradhan et al. (2011). The most commonly attacked crops are maize and rice. The major field crops farmed in the Terai region are paddy and maize, and the greatest period for crop raiding is when these are being harvested. According to Lakhar et al. (2007), crop raiding occurs in India during the months of June and July and October and November. The research area's maize crop was determined to be the most damaged, followed by paddy, and millet.

Contrary to this, rice was preferred by wild elephants over wheat and maize in the Chitawan National Park and Parsa National Park buffer zones (Yadav et al., 2014).

Male elephants are twice as likely to attack farms when they are in the height of their reproductive cycle, and younger males are more likely to raid if they are imitating more experienced males, according to Archie and Chiyo (2012). Some problem elephants damage houses used to store grains, attack farms, and can become violent when confronted (Sukumar R., 2006). Similar to this, mother elephants chasing their young are more prone to harm humans. (Clutton-Brock, 2012)

Economic Loss Due to HEC

The data reveals that HEC imposes a severe and direct economic burden on the studied community, with each household losing a significant average of Rs 1,483.25 annually. This major loss of Rs 2,10,650 suffered by the community adversely affects the income of the people, putting their livelihoods and food security at risk, as seen by the damage of 2,830 kg of paddy and 3,140 kg of maize. The fact that the monetary loss in case of maize is greater than paddy, i.e., Rs 1,25,720 and Rs 84,930 respectively, implies that maize might be a valuable cash crop, indicating that the elephant raids affect the vital needs of the people.

However, the effects go beyond this financial cost. The figures cannot quantify the indirect costs, including the cost of lost opportunities, the psychological trauma of living in fear all the time, and the threat of danger to one's life due to possible confrontation with the elephants.

Mitigation Measures Minimizing HEC

This study reveals that traditional measures such as chasing away elephants by shouting at them, making noise by beating drums and bursting firecrackers, among others, are the key mitigation measures used. Although these strategies provide an easy,

quick fix and a ready solution to the problem, they pose a serious threat to safety. The main risk with using such mitigation measures is the danger of escalation. These actions can be threatening to elephants and, therefore, provoke them to attack people and destroy their properties, which results in even more dangerous conflicts. This trend is not unique to this particular location but it has been practiced in other parts of the world as well. For example, it has been reported in northeast India (Choudhury, 2004). The fact that these traditional measures have been widely applied in spite of the risks involved indicates a major problem – a lack of availability of cost-effective alternatives to traditional measures.

Conclusion

The results of the study showed that HEC occurred because of lack of suitable habitats for elephants, insufficient food sources in the forests, traditional migration routes of elephants, and migratory nature of elephants. More than 62% of the people surveyed had negative perceptions regarding elephants due to their impacts – damaging crops and properties, and even killing humans. Some old people surveyed were found to hold religious beliefs that prevented them from injuring elephants. Crop damage emerged as the primary impact of HEC and the estimated economic loss per year amounted to Rs 2, 10,650. The loss caused to each family per year by crop damage was Rs 1, 483.25. The most raided crops included maize and paddy. The problem of HEC was found to be managed through traditional methods such as using drums and tin cans, creating noise, firecrackers, and lighting fires.

References

Archie, E. A., & Chiyo, P. I. (2012). Elephant behaviour and conservation: Social relationships, the effects of poaching, and genetic tools for management.

- Molecular Ecology*, 21(3), 765–778. <https://doi.org/10.1111/j.1365-294X.2011.05237.x>
- Ayyappan, S., Agrawal, P. K., Rao, V. V., & Tripathi, R. (2016). Human–wildlife conflict to coexistence in agro-pastoral landscapes. In P. K. Agrawal, A. Varghese, S. Radhakrishna, & K. Subaharan (Eds.), *Human–animal conflict in agro-pastoral context: Issues & policies* (pp. 1–9). Indian Council of Agricultural Research.
- Bajracharya, S. (2009). *An assessment of crop damage by wild animals in the southern parts of Shivapuri National Park* (Unpublished master's thesis). Department of Zoology, Tribhuvan University.
- Balasubramanian, M., Baskaran, N., Swaminathan, S., & Desai, A. A. (1995). Crop raiding by Asian elephants (*Elephas maximus*) in the Nilgiri Biosphere Reserve, South India. In J. C. Daniel & H. Daté (Eds.), *A week with elephants: Proceedings of the International Seminar on Asian Elephants* (pp. 350–367). Bombay Natural History Society.
- Calabrese, A., Calabrese, J. M., Songer, M., Wegmann, M., Hedges, S., Rose, R., & Leimgruber, P. (2017). Conservation status of Asian elephants: The influence of habitat and governance. *Biodiversity and Conservation*, 26(9), 2067–2081. <https://doi.org/10.1007/s10531-017-1345-5>
- Campos-Arceiz, A., Takatsuki, S., Ekanayaka, S. K., & Hasegawa, T. (2009). The human–elephant conflict in southeastern Sri Lanka: Type of damage, seasonal patterns, and sexual differences in the raiding behavior of elephants. *Mammal Study*, 34(2), 75–84. <https://doi.org/10.3106/041.034.0202>
- Choudhury, A. (2004). Human–elephant conflicts in Northeast India. *Human Dimensions of Wildlife*, 9(4), 261–270. <https://doi.org/10.1080/10871200490505693>
- Choudhury, A. (2010). *Elephas maximus*. *The IUCN Red List of Threatened Species 2010*. <https://www.iucnredlist.org/species/7140/12828813>
- Clutton-Brock, J. (2012). *Animals as domesticates: A world view through history*. Michigan State University Press.
- Jha, P. (2010). *Assessing human–elephant conflict (HEC) status in Sarlahi, Nepal: A guide for formulating potential mitigation strategies*. WWF Nepal.
- Kangwana, K. (1995). Human–elephant conflict: The challenge ahead. *Pachyderm*, 19, 11–14.
- Koirala, R. K., Raubenheimer, D., Aryal, A., Pathak, M. L., & Ji, W. (2016). Feeding preferences of the Asian elephant (*Elephas maximus*) in Nepal. *BMC Ecology*, 16(1), Article 54. <https://doi.org/10.1186/s12898-016-0105-9>
- Lahkar, B., Das, J., Nath, N., Dey, S., Brahma, N., & Sarma, P. (2007). *A study of habitat utilization patterns of Asian elephant (Elephas maximus) and current*

status of human–elephant conflict in Manas National Park within Chirang-Ripu Elephant Reserve, Assam. Aaranyak.

- Lamarque, F., Anderson, J., Fergusson, R., Lagrange, M., Osei-Owusu, Y., Bakker, L., et al. (2009). *Human–wildlife conflict in Africa: Causes, consequences and management strategies*. Food and Agriculture Organization of the United Nations. <http://www.fao.org/3/i1048e/i1048e00.htm>
- Madden, F. (2004). Creating coexistence between humans and wildlife: Global perspectives on local efforts to address human–wildlife conflict. *Human Dimensions of Wildlife*, 9(4), 247–257. <https://doi.org/10.1080/10871200490505675>
- Madhusudan, M. D. (2003). Living amidst a large wildlife: Livestock and crop depredation by a large mammals in the interior villages of Bhadra Tiger Reserve, South India. *Environmental Management*, 31(4), 466–475. <https://doi.org/10.1007/s00267-002-2790-8>
- Pant, G. (2013). *Understanding the nature and extent of human–elephant conflict in central Nepal* (Unpublished master's thesis). Tribhuvan University.
- Paudel, P. K. (2015). Think globally, act locally: On the status of the threatened fauna in the Central Himalaya of Nepal. *Geoforum*, 64, 192–195. <https://doi.org/10.1016/j.geoforum.2015.06.019>
- Perera, B. (2009). The human–elephant conflict: A review of current status and mitigation methods. *Gajah*, 30, 41–52. <https://www.asesg.org/PDFfiles/Gajah/30-41-Perera.pdf>
- Pradhan, N. M. B., Williams, A. C., & Dhakal, M. (2011). Current status of Asian elephants in Nepal. *Gajah*, 35, 27–31. <https://www.asesg.org/PDFfiles/Gajah/35-27-Pradhan.pdf>
- Ripple, W. J., Wolf, C., Newsome, T. M., Galetti, M., Alamgir, M., Crist, E., Mahmoud, M. I., Laurance, W. F., & 15,364 scientist signatories from 184 countries. (2017). World scientists' warning to humanity: A second notice. *BioScience*, 67(12), 1026–1028. <https://doi.org/10.1093/biosci/bix125>
- Roe, D., Nelson, F., & Sandbrook, C. (Eds.). (2009). *Community management of natural resources in Africa: Impacts, experiences and future directions*. International Institute for Environment and Development. <https://www.iied.org/1750iiied>
- Sukumar, R. (1990). Ecology of the Asian elephant in southern India. II. Feeding habits and crop raiding patterns. *Journal of Tropical Ecology*, 6(1), 33–53. <https://doi.org/10.1017/S0266467400004004>
- Sukumar, R. (2003). *The living elephants: Evolutionary ecology, behavior, and conservation*. Oxford University Press.

- Sukumar, R. (2006). A brief review of the status, distribution and biology of wild Asian elephants (*Elephas maximus*). *International Zoo Yearbook*, 40(1), 1–8.
<https://doi.org/10.1111/j.1748-1090.2006.00001.x>
- Thapa, B., & Dhakal, B. (2014). *Human–elephant conflict: Household impact assessment in Bahundangi VDC, Nepal* [Report]. University of Florida, Tropical Conservation and Development Program.
- Thouless, C. R., Dublin, H. T., Blanc, J. J., Skinner, D. P., Daniel, T. E., Taylor, R. D., Bouché, P., & IUCN/SSC African Elephant Specialist Group. (2016). *African elephant status report 2016: An update from the African Elephant Database* (Occasional Paper Series of the IUCN Species Survival Commission No. 60). IUCN. <https://portals.iucn.org/library/node/46816>
- Treves, A., & Bruskotter, J. (2014). Tolerance for predatory wildlife. *Science*, 344(6183), 476–477. <https://doi.org/10.1126/science.1252690>
- Vancuylenberg, B. W. B. (1977). Feeding behaviour of the Asiatic elephant in south-east Sri Lanka in relation to conservation. *Biological Conservation*, 12(1), 33–54.
[https://doi.org/10.1016/0006-3207\(77\)90057-7](https://doi.org/10.1016/0006-3207(77)90057-7)
- Wilson, D. E., & Reeder, D. M. (Eds.). (2005). *Mammal species of the world: A taxonomic and geographic reference* (3rd ed.). Johns Hopkins University Press.
- Woodroffe, R. (2000). Predators and people: Using human densities to interpret declines of a large carnivores. *Animal Conservation*, 3(2), 165–173.
<https://doi.org/10.1111/j.1469-1795.2000.tb00241.x>
- World Wide Fund for Nature. (2007). *A case study on human–wildlife conflict in Nepal* [Report]. WWF Nepal.
- Yadav, B. (2004). Human–elephant relationship and conflicts in eastern Nepal. In J. Jayewardene (Ed.), *Endangered elephants: Past, present and future; Symposium on human–elephant relationships and conflicts, Sri Lanka* (pp. 90–92). Biodiversity & Elephant Conservation Trust.
- Yadav, B. R. (2005). Participatory biodiversity monitoring in the buffer zone of Royal Bardia National Park. *Banko Janakari*, 15(1), 35–42.
- Yadav, B., Dutta, C., Chalise, M. K., & Williams, A. C. (2014). Human–Asian wild elephant (*Elephas maximus*) conflicts and its socio-economic consequences in and around the protected areas of Central Terai, Nepal. *Banko Janakari*, 24(1), 47–54.
<https://doi.org/10.3126/banko.v24i1.13681>