



Assessment of Human-Monkey Conflict Based on Public Perception in Koshi Province, Nepal

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Abstract

Human monkey conflict is a burning problem in Koshi province Nepal. Locals have been deeply distressed by the monkey menace. With the aim to evaluate the existing situation of human monkey conflict, this research was done in 2024 in 10 local levels of Koshi province by following the questionnaire, key informant, focal group discussion methods. The finding showed the *Macaca mulatta* was the most problematic species, the troop of which resided within 100 meters of cropland. Disturbing the monkey from human side in their habitat and crop raiding by monkeys were the antagonistic defects. A total of 240 persons injured from monkey, out of which 77% were children. Maize was mostly affected crop. People followed traditional to modern technology (from catapult to drone) to chase the monkey out. About 84% farmers diverted to the alternative crops and the local governments have practiced many efforts to reduce the problem. Due to low human population, lack of technology, less farming profession, people were found weak in coping with monkey. Most of the respondents (42%) advised to shot and kill the monkey. There is legal provision to provide compensation but no one granted till the date. To manage the human monkey conflict a national level strategy should be launched as soon as possible.

Keywords: Children, compensation, crop raiding, *Macaca mulatta*, migration, Taplejung

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Introduction

The negative interactions between human and wild animals that take place when there is competition in resources and activities of wildlife affect the human being or human's activities harm the wildlife which results social

ecological, economic or the consequences in conservation is called Human Wildlife Conflict (International Union for Nature Conservation [IUCN], 2023; UNEP & World Wildlife Fund [WWF], 2021). The rapidly changes in the adaptability of *Macaca mulatta*, there is the increase in the human monkey

interaction (Kaburu et al., 2019). In mid hill region of Nepal, the human monkey conflict is established as a socio-ecological problem (Joshi et al., 2025). The quantifiable effects on household economies and food security are the major destruction of monkey species (Goodman, 2025). The forest area is increasing every year at the rate of 0.6% (Tripathi et al., 2020) in Nepal. But the monkey could not get enough wild foods due to human activities in forest, single dominance species and fragmentation of forest (Bhattarai, 2020; Koirala et al., 2021). On the other side the farmers leave the farm and village, the land remained bare, the primate could not get sufficient foods which resulted the monkey came near to cropland and village and level of conflict raised up (Oldekop et al., 2018, Ghimire & Chalise 2018; Chalise, 2013; Regmi et al., 2013). In Nepal major problematic species is Rhesus monkey which is distributed from low land of Terai to the high altitude of 2500 masl (Adhikari, 2025, Aryal & Chalise, 2013).

The previously done research works pointed out the local people followed conventional methods to protect the crops from monkey such as using scarecrows, watch dogs, night guarding, throwing the stones etc. (Adhikari, 2018; Bashyal et al., 2022, Bhatta & Joshi, 2020). But such type of practices could be unsuccessful due to many reasons, so people are continuously coping with the monkeys. Other preventive measures could not be developed. Hence, human monkey conflict is more common in developing countries (Air, 2015).

It is important to know why the people have been facing the problem increasingly. It is due to the failure of traditional chasing methods, there is the question in the existing preventive and control measures and innovation could not be happened regarding to this (Ankit et al., 2021; Klees Van Bommel et al., 2020). It is necessary to find out what problems are they facing from the side of monkey, what are the

weak points to cope with the problem and what would they advise to reduce human monkey conflict in their locality. In this work, the concept was developed, research plan was designed with the objectives to evaluate the existing defensive practices against monkey and to explore the peoples' concept for the sustainable management of such problematic species in Koshi province, Nepal.

The study is subjected to many methodological and geographical limitations. It is constrained only in 10 local bodies, only a few number of respondents, the respondents were selected purposively. The collected data may be biased because of the agitation of local people to monkeys, higher expectations that the new man (researcher) could control the monkey. The questionnaire and data collection tools were also purposive.

This study gives the ideas and opinions which may be supportive to formulate the policy and strategic plan for sustainable management of human monkey conflict in Nepal.

Materials and Methods

Study area

The study was conducted in 10 local levels covering 10 districts of Koshi Province, Nepal. They were Chulachuli Rural Municipality (Ilam), Hilihang Rural Municipality (Panchthar), Phungling Municipality (Taplejung), Chainpur Municipality (Sankhuwasabha), Myanglung Municipality (Terhathum), Arun Rural Municipality (Bhojpur), Pakhribas (Dhankuta), Chaudandigadhi (Udaypur), Haleshi Twanchung Municipality (Khotang) and Ramdhuni Municipality (Sunsari). The study areas are shown in figure.

All above mentioned local levels have agricultural farms and the residents grow many times of crops, fruits and other agricultural products. Most of the residents belong to farming profession and they usually encounter with the monkeys.

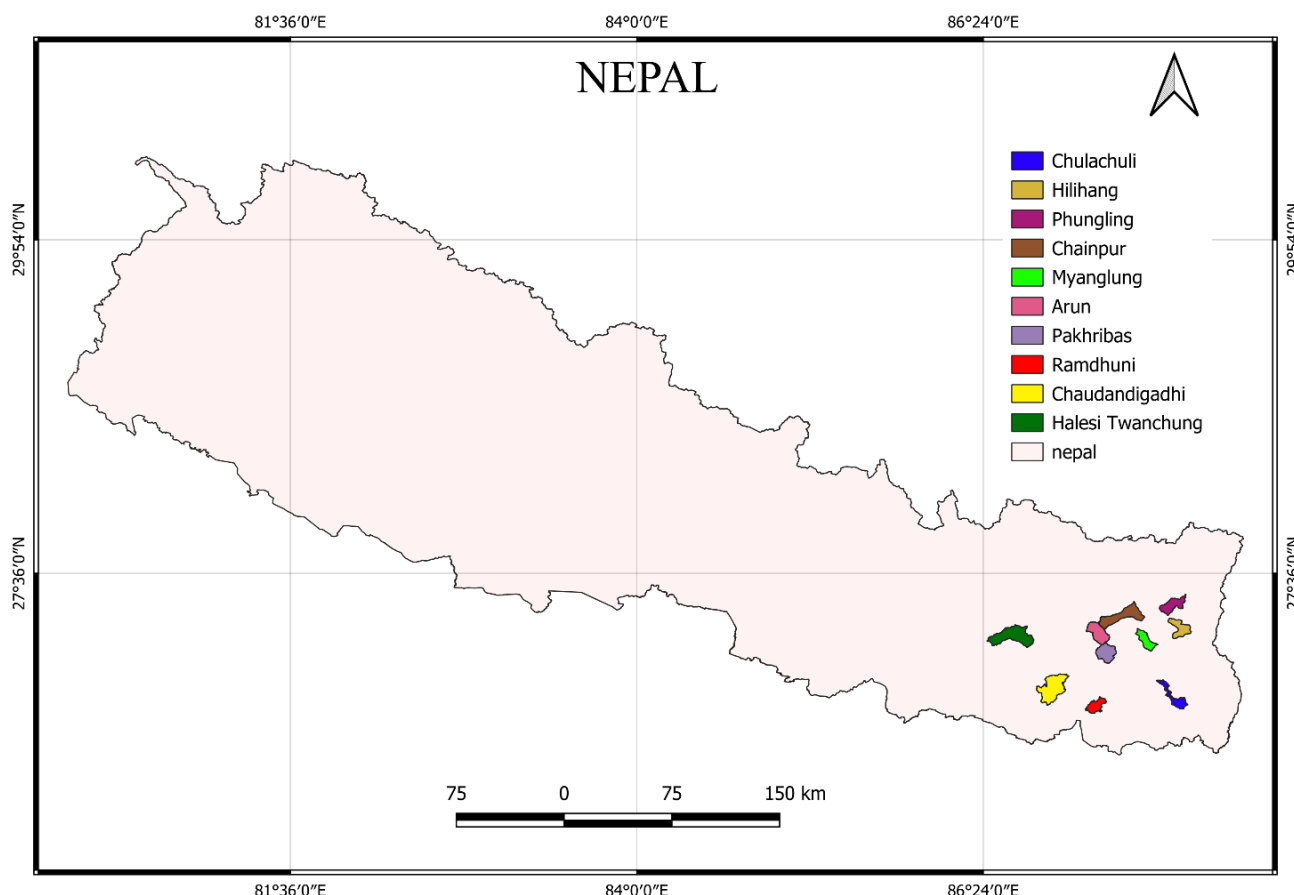


Figure 1. The map of Nepal showing the study sites

Data collection

The study was done in 2024, on the basis of both random sampling and mixed method approaches. Household surveys, direct field observation, Key informant interviews (specially with the local delegates and authorities of local body), focal group discussion (frontline farmers, technical persons of agriculture, forest, environment, school teachers, affected persons) were followed to get the robust and the representative data in Koshi province. The methods were followed as like (Joshi et al., 2024; Adhikari et al., 2018; Koirala et al., 2022).

Because of restriction of time, finance and geography, a sample size of 50 households was drawn from the whole population of each local level. It was a purposive sample and a reverse use of (Yamane, 1967). According to

this, the formula, the sample size should be operated at 14.07% margin of error. Hence I assumed the selected sample represents the whole population and serves as exploratory baseline which offers granular insights to the sampled households. So a total of 500 households which were selected randomly. The data was collected from 50 adult individuals representing a person from of different education and economic status from each sampled local level who are mostly affected from monkeys' activities. The questionnaire included the questions to collect the information about the knowledge of respondents regarding the problematic species, habitat of monkey and cropland distance, harmful activities of human and monkey, injured people, raided crops, peoples' perception on the monkey management, their weakness and methods to chase the monkey

out (Katuwal, 2024; Adhikari, 2018). The provision of compensation and their opinions in these contexts was aimed to assess and the attitude of people in regards of monkey was also noted by following the method as (Hill, 2015).

Data analysis

The collected data was tabulated and converted to percentage in Microsoft Excel 2016.

To evaluate the mostly attacked crops, marks 5 was given to the crop which was written in the first number. Similarly 4 was given for the secondly written crop, 3 for third, 2 for fourth and 1 for the fifth. In this research work there were totally 500 respondents so full marks was 2500.

The Likert scale was applied to find out the rank of mostly targeted crops of Rhesus Monkey (Likert, 1932) and summing all categorical marks obtained by crops the rank was determined.

Results and Discussion

The problematic species

Most of the people could identify the monkey's species. The question was put which species was more problematic. About 97% (n=485) revealed Rhesus Monkey was most problematic in the remaining value Hanuman Langur and no other types of monkey they observed.

In this work it was identified *Macaca mulatta* was the most problematic species. In whole country Nepal, it is considered as the most problematic according to the previous researchers. Among the non-human primates available in Nepal Rhesus Macaque (*Macaca mulatta*) is consistently pointed as the most destructive, widely distributed and problematic species (Joshi et al., 2025; Sharma & Acharya, 2018; Adhikari & Chakraborty, 2024). One predictive distribution model showed more than 44% of land of total area is the best for the residence for monkey but less than 8%

population distributed in the protected area (Koirala et al., 2022). It indicates 36% of *M.mulatta* are distributed directly in the contact of human which promotes the conflict between them. Our studies verified it. Department of National Park and Wildlife Conservation listed the most raider animals in Nepal in which the Rhesus Monkey comes in first (Department of National Park and Wildlife Conservation [DNPWC], 2017). Beside the Rhesus Monkey, Hanuman Langur was equally crop raider, opportunistic and because of its intelligence (Khatun et al., 2013).

Distance of habitat of monkey from the residential areas or farmland

The finding of this work showed that the habitat of Rhesus Monkey was very nearer to the agricultural field. It indicates the severity of human wildlife conflict.

The number of respondents who informed that monkey inhabited within 100 meters from farmland was 136 (27%). About 32.33% of respondents told that the monkey inhabited within 300 meters, 25.33% revealed that monkey stayed within 500 meters and only 15% informed the crop raider monkey would be far from 500meters.

Since 36% of population of Rhesus monkey is distributed in community forestry, religious areas and near the agricultural fields (Koirala et al., 2022), it could be said with support of our finding monkey stay near by cropland. Matching to us (Chalise, 2013; Koirala et al., 2026) stated that the Rhesus Monkey permanently establish the territories in close proximity to agricultural land where they get highly digestable, seasonal crops like maize, wheat, potatoes etc. Next finding also showed a short distance between farmland and residence of Rhesus monkey stating both the crop raiding frequency and damage intensity were inversely proportional to the distance from the forest edge (Neves et al., 2024).

Trouble from human to monkey

The local people were found affecting the monkeys in different ways. The respondents were requested that they should tell or write only one activity of people which they feel the most important. Out of 500 respondents 390 (78%) pointed out scaring the monkeys. It was followed by entering the forest and disturbing the monkeys (14%), injuring them (3.66%), trapping them in traps (2.33%) and catching the baby monkey (2%).

It was noted some harmful activities of human to monkey. The previous studies showed animal rights violations and illegal beatings of trapped monkeys were documented in Taplejung (Ekantipur, 2026). The farmers made steel traps, kept foods with toxic chemicals and launched physical attack (Ghimirey et al., 2018). In our finding use of toxic chemicals were not noted. The result of research in Dhankuta revealed that people trapped the monkeys, caught the babies, injured them and threatened them frequently (Adhikari, 2018). The authority of local government in many places of Nepal had done many works against the monkey. In some places the authority cut down the trees, fenced the forest, use harmful chemicals, the watchmen injured the monkey but almost all the activities did not control the conflict rather the monkeys felt disturbed and became more aggressive (Panta, 2024).

Trouble from monkey to human

The respondents were informed only to write or tell more preferred problem created by monkey. The answer of respondents was tabulated and converted to percentage. All 500 respondents (100%) revealed that the crop destruction was the most important. It was followed by threatening women and children (25.66%), then entering houses and causing

nuisance (19%). Some (7.66%) told attacking adult man, harming domesticated animals (7.66%), damaging the drinking water supply system (12.33%) and other disturbances (24%).

The previous studies also reflected the loss of properties from monkey side. Ghimire and Chalise (2018), found that the Rhesus Macaques drive a nationwide agricultural raiding rate of 24% and crop yield loss of 29.24% for the impacted locals. The infants and juveniles damage the crops during playing and in totality the crop damage came in the first (Adhikari, 2018). Beside these they break the roof tiles, sometimes enter kithens and snatch the food, tear up domestic clothes and also damage village utility infrastructures (Adhikari, 2018, Joshi et al., 2025). The types of menace were more or less similar to our findings. The crop depredation was pointed out a very challenging issue and annual loss per house hold was accounted for USD 216 only for crop (Karki et al., 2024). Our findings was consistent with others studies which recorded the crop raiding was the most prevalent nature of human- monkey conflict which was followed by harms to the livestock (Joshi et al., 2020; Baral et al., 2021; Pant et al., 2016).

Injuries

During the study period a total of 240 persons were injured in koshi province in encounter with monkeys. The children were come in first (77%, n=185) which was followed by elders (11%, n=26), then adult women (8%, n=19) and the adult men in the least (4%, n= 10).

It was recorded 240 injured persons in the encounter with monkeys. Among them 185 persons were children. The next study in Dhading found only two events of accident (Karki et al., 2024). The next research showed a painful event that the death of six month old

infant following the attack by macaque. It indicated that the monkey can inflict severe injuries, bites, falls, trauma, cranial injuries among the children (Behera et al., 2021). Gautret et al., 2019; World Health Organization [WHO], 2024) reported the physical injuries with monkey bites and scratches and the risk of zoonotic infections were very common showing the data monkey bite accounts 2- 21% of all animal bite in the world. According to the report of World Health Organization, the monkey bite is the second leading of animal bite injuries after dogs. Monkey bite is dangerous because it transmits rabies, herpes B virus, Mpox, Salmonella, Campylobacter infection etc. (WHO, 2024). Cossaboom et al.(2025), stating the monkey bite is very common in world recommended the immediate treatment.

Raided crops

The most raided crop was maize. All the respondents gave number 1 (one) for maize and we put 5 marks for the first choice. Hence maize got 100% (N=500) and its mark was 2500. Rice stood in second with the mark 1600 (80%, N=400).The fruits occurred third position obtaining marks 900 (60%, N=300). In the similar way wheat (40%), millet (30%), mustard (20%) and others (10%).

The results showed the maize was the most affected crop. The other studies also pointed the same as the maize- 52% which was followed by millet, paddy in Nagarjun Shiva Puri National Park (Air, 2015), Gaurishankar Conservation Area (Awasthi & Singh, 2015), Dhankuta (Adhikari, 2018), Langtang National Park (Chalise, 2010). About 99% of damaged crop by monkey was occurred by maize (Koirala et al., 2022), 49% of crop feeding time was spent in maize and other crops were potato and orange came in the damaged list (Adhikari et al., 2024).

Methods applied to chase away the monkeys

All the respondents (100%, n=500) revealed they used catapult and 83% used traditional slingshot (Guleli), some (66%) used flaming torch, all the respondents again told they throw the stones and make loud noises to chase away the monkeys from their cropland or residential areas. The affected local people about (25%) made tiger sound in their electrical device and some (50%) made beating tin cans. About 4% answered that they utilized plastic toy guns, 3% utilized drones, 83% revealed that people took the support of dogs to chase away the monkeys. Some have set up the traps, kept the injured monkey in display to threat the others, set up fencing, trapping monkey in cage to oppress the monkey.

The results reflected most of the common method to chase away the monkey was use of catapult and people used other methods and equipment also. Koirala et al. (2021) described collective crop guarding, planting buffer crops and restoring the natural habitats. Next finding stated 99% human guarding, 14% combine with dog guarding and 1% electric fencing (Sinha and Vijaykrishna, 2017), throwing stones and shouting were most common in Banke (Subedi et al., 2020), use of dogs in Bangladesh (Khatun et al., 2013), people felt failure to chase monkey away in Kailali (Awasthi and Singh, 2015, Joshi et al., 2025) and growing primate preferring food species in forest (Enari, 2021).

Evaluating locals' adoption

People developed many ideas to manage the monkeys in their natural habitat. They did the practice of coexistence with monkey. The applied following practices. The collected data showed the local people were tried to coexist with monkey in the ecosystem.

Table 1. Practices of locals for existence with monkey

S.N.	Practices	Percentage	Number
1.	Cultivating alternative crops	82.24	412
2.	Planting fruits which are not loved by monkeys	42.2	211
3.	Planted the grafted saplings of fruits in forest	20.6	103
4.	Making buffer zone	69.2	346
5.	Shifting attraction towards animal husbandary	31.4	157
6.	Planting cash crops and timbers	54.2	271
7.	Growing tree fodder	29.8	149

It was documented mainly seven measures formulated and applied by the local people to be prevented from monkeys. Enari (2021) found the locals planted the plants which would avoided by monkeys. Some studies found no preferred food species were found in forest so they recommended to grow preferred plants in the natural habitats (Karki et al., 2024; Adhikari & Chakraborty, 2024, Adhikari et al., 2024). Pointing out the food wastes and feeding the macaques were the causes of attraction of monkeys to cropland and village (Hockings, 2016) suggested educating the tourists, banning intentional feeding and use of monkey proof bins. Pebsworth et al. (2025), found that the locals formally did the agreement with division forest and agricultural offices to inspect the crop damage and its cost to process institutional relief to the hard-hit farmers. Khandbari municipality has passed the municipal legislative bill to allocate the funding at conducting professional feasibility and impact studies which aimed to plan long term sustainable deterrent solutions.

This study highlighted the policy and action implemented by local government in Koshi province. Previously, such findings were not published. Laliguras municipality of Terhathum decided today's holiday to repel the monkey collectively from the habitats near croplands. Diktal Rupakot of Khotang allocated a much budget to manage and drive the monkey away from populated agricultural areas (Ghimire, 2026). Biratnagar metropolis attempted the translocation of a troop of monkey from Raghupati Jute Mill to the

build up the ideas but may not be implemented because of many factors. Hence in this study also why were people applying many adoptive measures. It might resemble to the Pebsworth's findings.

Efforts of government

To manage the monkey and reduce the human monkey conflict in eastern Nepal whether the governments (local, province and central) did any action in local levels. The mixed replies were found. The local governments were found much active in this regards. Among 10 local bodies all of them paid attention to this issue. Some municipalities like Myanglung municipality appointed the employees to chase out the monkeys. Phungling municipality

Charkose Jhadi to avoid the future situation of conflicts (Adhikari, 2019). The earlier researchers have given suggestion to government to make policy. Koirala et al., (2022); Koirala et al. (2021), suggested to formulate the strategies for the improvement of habitat connectivity, restoring the forest, educating the people. Himanchal Pradesh government, India implemented Rhesus Monkey sterilization program to minimize its population and human monkey conflict (Thakur et al., 2022). Japan has made an integrated sustainable wildlife management program which regulates the community participation, habitat management, compensation etc. (Knight, 2000). In Singapore there is banned on feeding the wildlife, provision of waste management and improvement of habitat (Sha et al., 2009).

Problem faced by local in coping with the monkey

The following problems were pointed out faced by local people in coping with the monkey from our field study.

- a. very low human population remaining in the villages
- b. Inability to deploy enough people to all farmlands to chase monkeys away
- c. Lack of modern technology and equipment
- d. Inability to engage in livestock farming across open areas
- e. Inability to transition completely from food grain crops to cash crops
- f. Lack of market sales for alternative crops that monkey avoids eating
- g. Getting failure in all the practices what the applied to chase the monkey away.

The results pointed out seven major problems faced by locals for fighting against the monkey. In other places some studies have been completed and they showed some problem. For example, people wanted effective measures such as fencing but which was often beyond the financial status of people (Sharma et al., 2021; Adhikari, 2018). During the human monkey conflict due to lack of resources, the human side falls to psychological stress and increasingly negative attitude towards monkey and its conservation (Koirala et al., 2022; Adhikari, 2018). In locals, the fear was increasing and well being was decreasing because of frequent loss of war against the monkey (Koirala et al., 2022).

Suggestion of locals for monkey management

The local residents have become deeply distressed by persistent nuisance caused by monkey. So, most of the respondents about 42.5% (n=212) advised to be shot and killed the monkey. Some (25%, n= 125) suggested for sterilization (surgical management), some (7.66%, n=38) demanded new scientific technology to chase away them, about 12% (n=60) told they should be captured and

translocated and 7% (n=35) showed the need of monkey-guard and rest 5.8% (n=29) gave other opinions.

In this research work, it was found most of the local people kept their opinion to Kill the monkeys. Some suggested for the sterilization. Many respondents did not advise to kill monkey (Joshi et al., 2025), community based management should be preferred (Koirala et al., 2021), Most of the people suggested for killing (Ganguly & Chauhan, 2019), most of the locals were in the support of translocation and sterilization rather than killing (Binoy et al., 2018), Dhankuta preferred the translocation of monkeys (Adhikari, 2018).

Compensation scheme

There is the legal provision of compensation in the degradation of crops by monkeys but not in the case of injuries. Almost all the respondents revealed that they have not received any type of compensation from governments.

It was found no one affected person got the compensation of the damaged crops. There is the legal provision to pay the relief on for the damage of crops. The relief distribution guidelines for the damaged caused by wildlife, 2080 can provide an amount of NRs.10,000 for the damage caused by monkey (Rai, 2026). Only in the vicinity of Shivapuri Nagarjun National Park the compensation was provided for the damage of crop by primate (Koirala et al., 2022). Compensation is the best mitigating tool so the locals may support for the wildlife conservation (Ritter et al., 2024). There is the high demand of public to be gained the compensation for the tolerance of disaster caused by monkey (Paudel & Shrestha, 2018).

Conclusion

The study was conducted whole year of 2024. The most problematic species was *Macaca mulatta* the troop of which settled very close to the farmland. The both human and monkey were responsible for the conflict. Children were mostly injured and maize was

the most affected crop. Local people used many methods to chase the monkey out but they had not much equipment and sufficient knowledge and manpower. Most of the people advised to kill the monkey. The human monkey conflict in Koshi province was found on peak. It is required a national level strategy to manage the human monkey conflict.

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References

- Adhikari, J. N., B.P. Bhattarai & T.B.Thapa. 2018. Human-Wild Mammal Conflict in a Human Dominated Midhill Landscape: a Case Study From Panchase Area in Chitwan Annapurna Landscape, Nepal. *Journal of Institute of Science and Technology*, 23(1): 30–38. <https://doi.org/10.3126/jist.v23i1.22158>
- Adhikari J., B. Bhattarai & T. Thapa. 2024. Correlates and impacts of human-mammal conflict in the central part of Chitwan Annapurna Landscape, Nepal. *Heliyon*. 10(6):e26386. DOI: 10.1016/j.heliyon.2024.e26386
- Adhikari, R.C. 2019. Ecology and behavior of Rhesus Monkey (*Macaca mulatta*) in Biratnagar, Province 1, Nepal. *International Journal of Zoology Studies*, 4(2), 43-47.
- Adhikari, R.C. 2025. *Ecological and Behavioural Investigations of Rhesus Monkey (Macaca mulatta, Zimmermann 1780) along Altitudinal Gradient in Nepal* [Doctoral Thesis, Raiganj University]. <https://shodhganga.inflibnet.ac.in/handle/10603/286603>.
- Adhikari, R.C. & K. Chakraborty. 2024. Comparative investigations on Feeding Behaviour of Rhesus Monkey (*Macaca mulatta*, Zimmerman 1780) in Two Habitats of Different Altitude in Nepal. *Eco. Env. & Cons.*, 30:168-180. <http://doi.org/10.53550/EEC.2024.v30i05s.028>
- Adhikari, R. C. 2018. Study of human and monkey conflict in Dhankuta Municipality, Dhankuta, Province 1, Nepal. *Nepalese Journal of Biosciences*, 8(1): 26–35. <https://doi.org/10.3126/njbs.v8i1.51721>
- Air, A. 2015. Crop raiding and conflict: Study of Rhesus macaque-human conflict in Shivapuri-Nagarjun National Park, Kathmandu Nepal. Norwegian University of Science and Technology.
- Ankit, K., R. Ghanekar, B. Morey, I. Mondal, V. Khandekar, S. Mondol, P P. Nigam & B. Habib. 2021. Inhabiting terra incognita: Two-decadal patterns of negative human-leopard interactions in human-dominating landscape of Maharashtra, India. *Global Ecology and Conservation*, 29. <https://doi.org/10.1016/J.GECCO.2021.E01740>
- Aryal, K. & M. Chalise. 2013. Human-monkey interface in Arkhale and Nayagaun, Gulmi, West Nepal. *Nepalese Journal of Zoology*, 1(1): 30–40. <http://www.cdztu.edu.np>
- Awasthi, B., & N.B. Singh. 2015. Status of Human-Wildlife Conflict and Assessment of Crop Damage by Wild Animals in Gaurishankar Conservation Area, Nepal. In *Journal of Institute of Science and Technology* 20(1):107–111. <https://doi.org/10.3126/jist.v20i1.13918>
- Baral, K., H.P. Sharma, R. Kunwar, C. Morley, A. Aryal, B. Rimal & W. Ji, 2021. Human-wildlife conflict and impacts on livelihood: A study in community forestry system in mid-hills of Nepal. *Sustainability (Switzerland)*, 13(23). <https://doi.org/10.3390/su132313170>
- Bashyal, A., S. Sharma, N. Koirala, N. Shrestha, N. Aryal, B.P. Yadav & S. Shrestha. 2022. Crop raiding and

- livestock predation by wildlife in Khaptad National Park, Nepal. *Journal of Threatened Taxa*, 14(11):22156–22163.
<https://doi.org/10.11609/JOTT.6659.14.11.22156-22163>
- Behera, C., M. Chauhan, A. Sikary, T. Millo & R.W. Byard. 2021. Injuries and deaths caused by non-human primate attacks: Paediatric vulnerability. *Medicine, Science and the Law*. 61(1): 74–77.
<https://doi.org/10.1177/0025802420957609>
- Bhatta, M. & R. Joshi. 2020. Analysis of Human-Wildlife Conflict in Buffer Zone Area: A Case Study of Shuklaphanta National Park, Nepal. *Grassroots Journal of Natural Resources*, 3(3): 28–45.
<https://doi.org/10.33002/nr2581.6853.03033>
- Bhattarai, Y. 2020. December 5. Changing Forest Ecosystem in Mid-hills of Nepal (मध्य पहाडी क्षेत्रको फेरिंदो वन पर्यावरण). *Naya Patrika*.
<https://jhannaya.nayapatrikadaily.com/news-details/1197/2020-12-05>
- Binoy, V. V., S. Radhakrishna & S. Anand. 2018. The monkey is not always a God: Attitudinal differences toward crop-raiding macaques and why it matters for conflict mitigation. *Ambio*. 47(6) :711–720. <https://doi.org/10.1007/s13280-017-1008-5>
- Chalise, M. K. 2010. A Study of Assamese Monkey in Sebrubeshi of Langtang National Park. *Journal of Natural History Museum*. 25:54–61.
- Chalise, M. K. 2013. Fragmented Primate Population of Nepal. In *Primates in Fragments* (pp. 329–356). Springer New York. https://doi.org/10.1007/978-1-4614-8839-2_22
- Cossaboom, C. M., R.M. Wallace, & C.B. Behravesh. 2025. Zoonotic exposures: Bites, scratches, and other hazards. In E. S. Halsey et al. (Eds.), CDC Yellow Book 2026: Health Information for International Travel. Centers for Disease Control and Prevention.
- DNPWC. 2017. Profiling of Protected and Human Wildlife Conflicts Associated Wild Animas in Nepal. *Department of National Parks and Wildlife Conservation, Banarmahal, Kathmandu.*, 211.bankojanakari.gov.np
- Ekantipur. 2026 March 10. *Taplejung youth arrested on the charge of torturing monkey.* Ekantipur.
<https://ekantipur.com/koshi-pradesh/2026/03/10/en/taplejung-youth-arrested-on-charges-of-torturing-monkey-34-07.html>
- Enari, H. 2021. Human-macaque conflicts in shrinking communities: Recent achievements and challenges in problem-solving in modern Japan. *Mammal Study*, 46(2):115–130.
<https://doi.org/10.3106/ms2019-0056>
- Ganguly, I. G. & N.S. Chauhan. 2019. How perception of local people towards rhesus macaque (*Macaca mulatta*) can influence decision-making of human-macaque conflict mitigation? *Journal of Wildlife and Biodiversity*, 3(3): 11–27.
<https://doi.org/10.22120/jwb.2019.35090>
- Gautret, P., K.M. Angelo, H. Asgeirsson 2019. Infectious disease risk across the growing human-non-human primate interface: A review of the evidence. *Frontiers in Public Health*. 7: 305.
<https://doi.org/10.3389/fpubh.2019.00305>
- Ghimire, S. C. & M.K. Chalise. 2018. Status of crop raiding by Assamese monkeys (*Macaca assamensis*) along the Budhigandaki river, central Nepal. *Journal of Natural History Museum*, 30: 294–305.
<https://doi.org/10.3126/jnhm.v30i0.27605>
- Ghimire, B. 2026, May 13. *Laligurans Municipality declares public holiday to*

- drive away monkeys*. The Kathmandu Post. <https://Kathmandupost.com/national/2026/05/13/laligurans-municipality-declares-public-holiday-to-drive-away-monkeys>
- Ghimirey, Y., R. Acharya, T. Upadhyaya & B. Adhikari. 2018. *Assessing the status and human-wildlife conflict of Assamese macaque (Macaca assamensis) in the buffer zone of Makalu-Barun National Park, Nepal*. Friends of Nature.
- Goodman M. 2025. *My Head for a Tree: The Extraordinary Story of the Bishnoi, Guardians of Nature*. Greystone Books Ltd.
- Hill, C. M. 2015. Perspectives of “Conflict” at the Wildlife–Agriculture Boundary: 10 Years On. *Human Dimensions of Wildlife*. 20(4): 296–301. <https://doi.org/10.1080/10871209.2015.1004143>
- Hockings, K.J. 2016. Mitigating Human–Nonhuman Primate Conflict. In *The International Encyclopedia of Primatology* (eds M. Bezanson, K.C. MacKinnon, E. Riley, C.J. Campbell, K.A.I. Nekaris, A. Estrada, A.F. Di Fiore, S. Ross, L.E. Jones-Engel, B. Thierry, R.W. Sussman, C. Sanz, J. Loudon, S. Elton and A. Fuentes). <https://doi.org/10.1002/9781119179313.wbprim0053>
- International Union for Conservation of Nature. 2023. *IUCN SSC guidelines on human–wildlife conflict and coexistence (Version 1.0)*. IUCN. <https://portals.iucn.org/library/node/50936>
- Joshi, G., B. Neupane, D. Dahal, S. Shrestha, P. Dhakal, C.M.B. Jandug, & D. Gautam. 2020. Assessment of human-wildlife conflict in Kailali district of Nepal. *Journal of Animal Diversity*, 2(3):24–36. <https://doi.org/10.29252/jad.2020.2.3.5>
- Joshi, M., M. Bista & B. Awasthi. 2025. Human–Monkey Conflict and Community Responses in Bheemdatta and Bedkot Municipalities of Kanchanpur District, Nepal. *Api Journal of Science*. 2(1): 1–12. <https://doi.org/10.3126/ajs.v2i1.87998>
- Kaburu, S.S., B. Beisner, K.N. Balasubramaniam, P.R. Marty, E. Bliss-Moreau, L. Mohan, S.K. Rattan, M.E. Arlet, E.R. Atwill & B. McCowan. 2019. Interactions with humans impose time constraints on urban dwelling rhesus macaques (*Macaca mulatta*). *Behaviour*. 156(12):1255–82.
- Karki, S., S. Sharma & A. Dahal. 2024. Pattern and Correlate of Human-Primate Conflict—An Insight for its Mitigation: A Case Study of Nilkantha Municipality of Dhading District, Nepal. *Authorea*. DOI: <https://doi.org/10.22541/au.172114535.56256090/v1>
- Katuwal, H. B. 2024. Pattern and Correlate of Human-Primate Conflict—An Insight for Mitigation Planning. *Authorea Preprints*.
- Khatun, U. H., M.F.Ahsan, & E. Roskaft 2013. Local People’s Perceptions of Crop Damage by Common Langurs (*Semnopithecus entellus*) and Human–langur Conflict in Keshabpur of Bangladesh. *Environment and Natural Resources Research*. 3(1):111–126. <https://doi.org/10.5539/enrr.v3n1p111>
- Klees Van Bommel, J., M. Badry, A.T. Ford, T. Golumbia & A.C. Burton. 2020. Predicting human-carnivore conflict at the urban-wildland interface. *Global Ecology and Conservation*. 24: e01322. <https://doi.org/10.1016/j.gecco.2020.e01322>
- Knight, J. 2000. *Natural enemies: People–wildlife conflicts in anthropological perspective*. Routledge.
- Koirala, S., P. Garber, A., Somasundaram, H.B. Katuwal, B. Ren, C. Huang & M. Li. 2021. Factors affecting the crop raiding behavior of wild rhesus macaques in Nepal: Implications for wildlife management. *Journal of Environmental Management*, 297:

- 113331.doi.10.1016/j.jenvman.2021.113331
- Koirala, S., S. Radhakrishna, S. Ambu, S. & A. Marathe. 2022. Identifying the environmental and anthropogenic causes of human-rhesus macaque conflict in Nepal. *Journal of Environmental Management*, 316(1):115276 DOI: 10.1016/j.jenvman.2022.115276
- Koirala, S., D. Adhikari, B. Rai. 2026. The Crop Feeding Behavior of Rhesus Macaques in a Forest-Farm Mosaic in Central Nepal: Implications for Human–Wildlife Coexistence. *American Journal of Primatology* 88: e70141. <https://doi.org/10.1002/ajp.70141>.
- Likert, R.1932.A technique for the measurement of attitudes. *Archives of Psychology*, 140: 1–55
- Oldekop, J. A., K.R.E. Sims, M.J. Whittingham & A. Agrawal. 2018. An upside to globalization: International outmigration drives reforestation in Nepal. *Global Environmental Change*, 52: 66–74. <https://doi.org/10.1016/j.gloenvcha.2018.06.004>
- Neves, E., S.I. Cherkaoui, Z. Amhaouch.2024. Conflicts Between Humans and Endangered Barbary Macaques (*Macaca sylvanus*) at the Edge of an Agricultural Landscape in Morocco. *Int J Primatol* 45 :860–881. <https://doi.org/10.1007/s10764-024-00422-w>
- Pant, G., M. Dhakal, N.M.B. Pradhan, F. Leverington, & M. Hockings. 2016. Nature and extent of human-elephant *Elephas maximus* conflict in central Nepal. *ORYX*, 50(4): 724–731. <https://doi.org/10.1017/S0030605315000381>
- Panta, S.R. 2024. Human-Animal Conflict in Jaimini Municipality, Baglung, Nepal. *International Research Journal of MMC (IRJMMC)*, 5(5):178-194. <https://doi.org/10.3126/irjmmc.v5i5.73717>
- Paudel, G., & T.K. Shrestha 2018. Crop depredation by monkey outside protected area in Nepal: Costs, conditions and perceptions. *Indian Forester*, 144(10):945–952.
- Pebsworth, P.A., M. Bardi & S. Radhakrishna.2025. Farmer Adoption of Mitigation Strategies: Insights from Human-Primate Conflict in India. *Int J Primatol* 46:1426–1446. <https://doi.org/10.1007/s10764-025-00492-4>
- Rai, B. (2026, June 23). The disaster of crop damage: Human-wildlife conflict further intensified by damage to agricultural production caused by animals and birds. *Nepal News*. <https://www.nepalnews.com/2026/06/24/disaster-of-crop-damage/>
- Regmi, G. R., K.A. Nekaris, K. Kandel, K. & V.Nijman. 2013. Crop-raiding macaques: Predictions, patterns and perceptions from Langtang National Park, Nepal. *Endangered Species Research*, 20(3): 217–226. <https://doi.org/10.3354/esr00502>
- Ritter, S., T. Plangsangmas, & S. Rüegg. 2024. Ecosystem health appears neglected in the management of the human-macaque interface: A systematic review. *One health* (Amsterdam, Netherlands). 19. 10.1016/j.onehlt.2024.100875.
- Sha, J. C. M., M.D. Gumert, B.P.Y.H. Lee, L. Jones-Engel, S. Chan & A. Fuentes. 2009. Macaque–human interactions and the societal perceptions of macaques in Singapore. *American Journal of Primatology*, 71(10): 825–839. DOI: 10.1002/ajp.20710
- Sharma, H. P., B.P. Bhatta, L.P. Poudyal, K.P. Acharya, & Colleagues. 2021. Human–wildlife conflict and impacts on livelihood: A study in community forestry system in mid-hills of Nepal.

- Sustainability*. 13(23): 13170. <https://doi.org/10.3390/su132313170>
- Sharma, S., & B.K. Acharya. 2018. Human-Rhesus macaque conflict at Pumdiumdi/Tallokodi, Pokhara, West Nepal. *Banko Janakari*, 27(2): 46–50. 10.3126/banko.v27i2.21222
- Siahaan, R., D.A. Rahman, & Colleagues. 2024. Ecosystem health appears neglected in the management of the human–macaque interface: A systematic review. *One Health Advances*. <https://doi.org/10.1016/j.onehlt.2024.100946>
- Sinha, A., & S. Vijayakrishna. 2018. The monkey is not always a god: Attitudinal differences toward crop-raiding macaques and why it matters for conflict mitigation. *Ambio*, 46(8): 874–887. DOI: 10.1007/s13280-017-1008-5
- Subedi, P., R.Joshi, B. Poudel & S. Lamichhane. 2020. Status of Human-Wildlife conflict and Assessment of Crop Damage by Wild Animals in Buffer Zone Area of Banke National Park, Nepal. *Asian Journal of Conservation Biology*, 9(2):196–206. ISSN 2278-7666
- Thakur, R., K. Mehta, K. Virender, H. Lal, & A. Walia 2022. Increasing Interference of Stray and Wild Animals in Farming: Reflections from Western Himalayan Foothills. *Indian Journal of Physical Anthropology and Human Genetics*. 1. 57-63. 10.55362/IJE/2022/3477.
- Tripathi, S., R. Subedi & H. Adhikari, 2020. Forest cover change pattern after the intervention of community forestry management system in the mid-hill of nepal: A case study. *Remote Sensing*, 12(17). <https://doi.org/10.3390/RS12172756>
- United Nations Environment Programme and World-Wide Fund for Nature. 2021. *A future for all: The need for human–wildlife coexistence*. UNEP and WWF. <https://wedocs.unep.org/20.500.11822/35795>
- World Health Organization. 2024. *Animal bites*. WHO.
- Yamane, T. 1967. *Statistics: An introductory analysis* (2nd ed.). Harper and Row.