



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

RESEARCH PAPER

Rangeland Conservation, Pastoralist Displacement, and Long-term Implications of a Grazing Ban in the Indian Himalaya

Rashmi Singh*, Kinzong Sherap Bhutia**, Tshering Uden Bhutia***, Suresh Babu****

Abstract: Conservation-induced displacement has been one of the major critiques of protected area management across South Asia. While there has been a steady increase in research on physical displacement, studies on loss of mobility remain limited. In 1998, a grazing ban was implemented in the state of Sikkim in the Eastern Himalayan region of India. Livestock herding in protected areas was restricted, and pastoral evictions were carried out across the state between 2000–2002. Fifteen years after the ban, we conducted this study to understand the long-term implications of the prohibition on grazing as well as that of the pastoral evictions in and around Khangchendzonga National Park (KNP). To do so, we assess eviction processes, document pastoral responses, and explore the complex social and perceived ecological outcomes of the grazing ban. Our study shows that pastoral evictions result in the further impoverishment of weaker sections of the pastoral community while powerful pastoralists appropriate benefits from conservation policies. Additionally, evictions do not necessarily aid in “biodiversity conservation”; instead, they give rise to social conflicts within the local community and lead to the emergence of new conservation challenges. Ex-herders’ responses to the displacement included passive acceptance, resistance and contestation, and negotiation using power and social networks. These responses were distinctly correlated with the herder’s wealth class. We conclude that instead of pastoral displacement, a successful conservation plan could be co-opting local knowledge and local institutions in identifying ways of cultural and conservation co-existence in the pastoral landscape of South Asia, paying closer attention to questions of equality and sustainability.

*School of Human Ecology, Ambedkar University Delhi. rashmi89singh@gmail.com

**Khangchendzonga Conservation Committee, West Sikkim. kinzong@gmail.com

***Khangchendzonga Conservation Committee, West Sikkim. uden.sikkim07@gmail.com

****School of Human Ecology, Ambedkar University Delhi. suresh@aud.ac.in

Copyright © Singh, Bhutia, Bhutia and Babu 2022. Released under Creative Commons Attribution © NonCommercial 4.0 International licence (CC BY–NC 4.0) by the author.

Published by Indian Society for Ecological Economics (INSEE), c/o Institute of Economic Growth, University Enclave, North Campus, Delhi 110007.

ISSN: 2581–6152 (print); 2581–6101 (web).

DOI: <https://doi.org/10.37773/ees.v5i1.335>

Keywords: Pastoral Communities, Conservation induced Displacement, Protected Areas, Biodiversity Conservation, Khangchendzonga National Park, Himalaya

1. INTRODUCTION

Conservation-induced displacement and eviction of indigenous communities from protected areas have been the understory of biodiversity conservation and protected area management practices in South Asia and Africa (Agrawal and Redford 2009; Brockington and Igoe 2006; Kabra 2018). Despite the global recognition of community conservation approaches and the development of forest rights legislations for indigenous communities (Convention of Biological Diversity, COP7, IUCN), they continue to face state-induced evictions. Globally, more than 10 million people have been displaced in the name of conservation (Agrawal and Redford 2009). In India alone, close to 6,00,000 have been displaced over the last two decades (Fanari 2019). These numbers are an understatement at best, given that the nomadic pastoral life is difficult to account for in such specific time- and place-bound surveys.

There is an emerging recognition of the role of pastoralists in managing and restoring rangelands, combatting climate change, and fulfilling sustainable food goals.[†] Ecologists continue to explore the role of livestock grazing in rangeland management (Briske, Fuhlendorf, and Smeins 2003; Ellis and Swift 1988; Retzer 2006; Vetter 2005), and recent studies have increasingly shown a positive correlation between traditional pastoralism and rangeland health (Ingty 2021; Kohli *et al.* 2021; Pozo *et al.* 2021; Zhang *et al.* 2020). However, colonial legacies of conservation and the spectre of “overgrazing” in the political narratives of pastoral landscapes have led to the curtailing of pastoralists’ access to their pastures, sedentarization, and even the removal of pastoral communities from their traditional pastures across Africa, Asia, Inner Mongolia, and China for the sake of “biodiversity conservation” (Behnke and Scoones 1992; Caravani 2019; Gonin and Gautier 2015; Mortimore 1998; Schmidt and Pearson 2016; Singh *et al.* 2021; Weber and Horst 2011; Weldemichel 2020; Yeh 2005; Zhizhong and Wen 2008). Scholarly engagements have showcased a wide range of social, cultural, and

[†] There is an emerging recognition of the role of pastoralists in managing and restoring rangelands, which cover over 40% of the terrestrial area, in combating climate change and fulfilling global food sustainability goals. Global agencies like Food and Agriculture Organization (FAO), International Union for Conservation of Nature (IUCN), World Wide Fund for Nature (WWF), and the United Nations Environment Programme (UNEP) are all independently as well as collaboratively supporting the call for the International Year for Rangeland and Pastoralism (IYRP 2026).

ecological outcomes of such state-led political interventions in the pastoral landscapes (Conte and Tilt 2014; Ichinkhorloo and Yeh 2016; Li *et al.* 2013). These results include violation of pastoral rights through unlawful encroachments of pastures by the state and private actors (Mwaikusa 1993); the transformation of pastoral communities to agriculture (Schmidt and Pearson 2016); and loss of access to pastures and pastoral livelihoods through state violence and territorialization (Caravani 2019; Gonin and Gautier 2015; Korf, Hagmann, and Emmenegger 2015; Saberwal 1996; Weldemichel 2020; Yeh 2005).

India has a rich diversity of pastoralists—from the goat herders of Jammu and Kashmir, i.e., the Bakarwals and Gaddis, the world-renowned Pashmina goat herders of Ladakh, the yak herders of Sikkim and Arunachal Pradesh, to the duck-herding nomads of Tamil Nadu. Pastoralists form over 98% of the nomadic population of India, which comprises 7% of the total population of the country. These pastoral communities have critical cultural, social, ecological, and economic importance. Still, given the common perception that large inviolate spaces need to be maintained for biodiversity conservation, pastoralists in India continue to face conservation-induced evictions and movement restrictions. While there is a scarcity of literature on the ecological influence of traditional herding, the scientific belief that there is a negative relation between pastoral land use and biodiversity conservation has resulted in numerous pastoral evictions in India. Some of these are the Gujjar pastoralists' eviction from Sariska Tiger Reserve, Rajasthan (Shahabuddin, Kumar, and Shrivastava 2007), Van Gujjars from Rajaji National Park in Uttarakhand (Muhammed 2020) and Jammu and Kashmir (Gooch 2009), the removal of water buffalo herders from Keoladeo National Park, Rajasthan (Lewis 2003), and many more.

This study aims to unpack the complex social and ecological implications of one of such grazing ban and eviction of pastoralists from protected areas. In addition, we seek to answer the question—do all pastoralists pay for “biodiversity conservation”? We argue that pastoral evictions result in the further impoverishment of weaker sections of the pastoral community while elite and powerful pastoralists appropriate the benefits of these conservation policies by gaining exclusive access to rangelands. Due to the lack of state planning for alternative livelihoods and compensation, most ex-herders continue to face long-term challenges even after opting for alternatives livelihoods after being evicted. Furthermore, the unplanned elimination of herders may result in the emergence of an entirely new set of conservation challenges in the long term.

We present our argument based on our study of pastoral displacement in KNP, which was followed by the grazing ban imposed in 1998 to preserve

the biodiversity of the state of Sikkim, situated in the Eastern Indian Himalayan region. To do so, we analyze the eviction processes used, document pastoral responses, and explore the long-term repercussions for the pastoralists of KNP, along with the implications for the conservation of the park. Protected areas across Sikkim witnessed massive dispossession of pastoralists between 2000 to 2002. Evictions in KNP included two sets of people: one, the residents of Tshoka village (10 households), which was situated inside the park; second, the pastoralists that herded sheep, cattle, dzo, and yak inside the park but had their permanent houses on the periphery of the park. This article predominantly focuses on the second set of people—the pastoralists who constituted more than 90% of the displaced population and who lost their mobility and access to the park, which was critical for their livelihoods.

2. CONSERVATION-INDUCED DISPLACEMENT IN SOUTH ASIA

The central assumption of the exclusionary model of conservation is that local livelihoods are at variance with conservation goals (Beinart and Coates 1995; Salafky and Wollenberg 2000). The exclusionary conservation model, based on fines and fences, has resulted in widespread dissatisfaction due to the inherent conflict between the motives of biodiversity conservation and poverty reduction in third-world countries (Brockington 2004; Colchester 2004). Critiques of conservation displacement argue that a human-free conservation model is unrealistic and unjust, where the impoverished are forced to abandon their native lands to fulfil the need for conservation (Beinart and Coates 1995; Madhusudan and Raman 2003; Saberwal, Rangarajan, and Kothari 2001). It has been further argued that the benefits of conservation are regional, national, and global and that its costs are borne primarily by the already marginalized local poor (Balmford and Whitten 2003; Kabra 2018). There are two kinds of conservation-induced displacement (CD): The first involves the physical displacement of forest-dwellers and people from their ancestral homes, while the second results in pastoralists' loss of access to livelihoods and mobilities inside protected areas (Cernea 2005). The ramifications of physical displacement manifest in the form of several social, economic, and cultural impacts on the displaced communities, including alienation from natural resources critical for livelihood security, direct loss of livelihood, income insecurity, increased poverty, and food insecurity (Cernea and Schmidt-Soltua 2006; West, Igoe, and Brockington 2006). CDs and forceful evictions carried out in South Asia have been critiqued widely, especially when the ecological benefits and effectiveness of protecting certain areas was much lower than anticipated (Kabra 2018). In India, for instance, one of the first detailed studies to

document the social implications of CD was conducted by Kabra (2009) on Saharia tribe members, who were displaced from Kuno Sanctuary, Madhya Pradesh. The study showed inverse impacts on income, a livelihood shift from a self-sufficient forest-dependent economy to a wage-based market, loss of food security, and a heightened vulnerability to diseases. In another study by Lam and Paul (2014) in Rana Tharus, Nepal, it was established that the compensation provided to displaced communities did not equate to an adequate replacement for their loss of livelihood. Displacement from the park resulted in the loss of social capital, which implied a further reduction in access to job opportunities.

While there has been a steady increase in empirical studies from South Asia documenting the processes and impacts of conservation displacement (West, Igoe, and Brockington 2006), a recent review by Kabra (2018, 117–140) highlights that the “literature remains minuscule compared to the estimated magnitude of impacts of PA on some of the most remote and vulnerable populations of the global South.” It is important to note that out of the two types of displacement, the second kind has remained invisible in the published literature. This study addresses the call for research on the second kind of CD, where displacement may not involve physical removal but results in loss of livelihoods and mobility, which becomes critical in the case of pastoral communities. We address this lacuna of pastoral displacement studies in South Asia and contribute through a case study conducted in the Eastern Himalayas. Given that all prior research on the impacts of the grazing ban was conducted either by state actors or their collaborators (Bhagwat, Diwan, and Venkataramani 2012; Tambe, Bhutia, and Arrawatia 2012), and the need for an independent assessment of the entire episode of the grazing ban and its long-term implications for the evicted pastoralists, this study becomes extremely crucial.

3. STUDY SITE

The study was conducted in four village clusters—Yuksom, Darap, Karzi, and Uttarey in West Sikkim—situated at the periphery of KNP. Sikkim covers an area of 7,096 km², which is only 0.2% of the total geographical area of India; however, it is an environmentally critical region, one among 34 global biodiversity hotspots (Myers *et al.* 2000). In terms of land area, following forests (265.21 thousand ha) and barren land, including rocky and snow-covered areas (209.01 thousand ha), permanent pasture and grazing land, including cultivable wasteland (102.40 thousand ha), account for the third-largest largest portion of land cover, at 14% of the state’s total area. These lands traditionally served as pastures for rearing livestock.

Agriculture and tourism are the main livelihoods of the inhabitants of Sikkim. Most of the local population, close to 80%, is dependent on agriculture. Local farmers traditionally cultivated rice, wheat, maize, finger millet, barley, pulses, tuber crop, spices, fruits, vegetables, and ornamental plants. However, with the increase in population and fragmentation of landholdings over generations, the per capita holding has reduced; farmers have moved towards cultivating cash crops like large cardamom (*Amomum subulatum*), potatoes (*Solanum tuberosum*), ginger (*Zingiber officinale*), and mandarin oranges (*Citrus reticulata*).

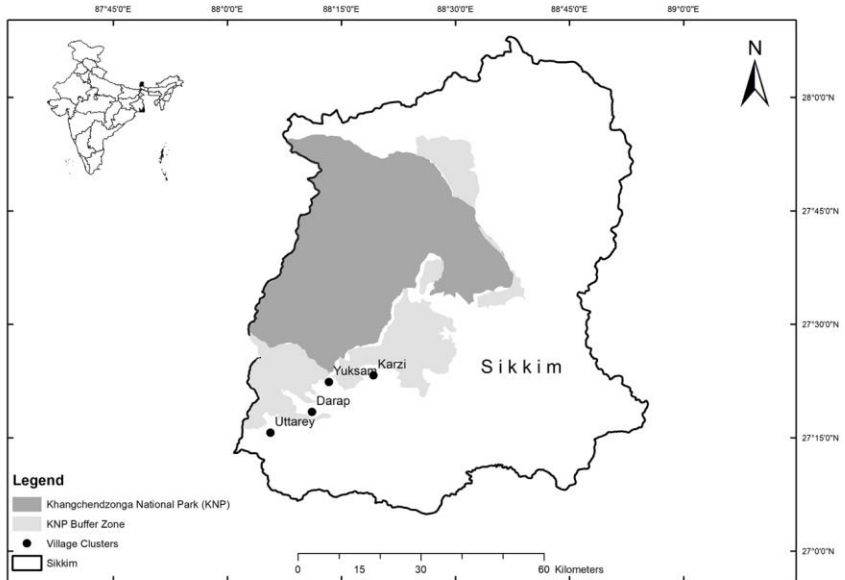
The study design included a landscape-based approach and therefore focused on KNP; the selected clusters were identified to be the most influenced by the grazing ban and pastoral evictions. The park covers an area of 1,784 km². KNP hosts a wide range of ecosystems, from sub-tropical to alpine, along with numerous lakes and peaks of religious importance to Sikkim's Buddhist and Hindu communities. The park is also home to a unique assortment of mammals, including the clouded leopard (*Neofelis nebulosa*), Tibetan wolf (*Canis lupus chanco*), Asiatic wild dog (*Cuon alpinus*), Asiatic black bear (*Ursus thibetanus*), Alpine musk deer (*Moschus chrysogaster*), Himalayan marmot (*Marmota himalayana*), blue sheep (*Pseudois nayaur*), argali (*Ovis ammon hodgsoni*), Himalayan ibex (*Capra sibirica*), and the charismatic snow leopard (*Panthera uncia*) (Sathyakumar *et al.* 2011). It harbours extraordinary floral diversity with 18 forest types (Champion and Seth 1968) and 1,580 species of vascular plants, comprising 106 pteridophytes, 11 gymnosperms, and 1,463 species of angiosperms (Maity and Maiti 2007). Holding critical ecological, religious, and cultural importance, KNP has been designated a UNESCO World Heritage site.

West Sikkim has a culturally diverse human community living in and around KNP. Historically, Gurungs and Mangers were shepherds, the Bhutia were traders and yak herders, Limbu were hunter-gatherers and shifting cultivators, the Chettris and Bahuns were agro-pastoralists, and the Tibetan Dokpas were nomadic yak herders (Tambe and Rawat 2009). Pastoral practices, before the implementation of the grazing ban, were undertaken by only 10–15% of the total households in the villages of West Sikkim.

Traditional livestock herding followed a pattern of seasonal resource use. Herders kept their yak and sheep in the high-altitude alpine regions of KNP in the summers. During winters, i.e., November to March, they were brought back to temperate and sub-temperate pastures near the villages. Yuksom village of West Sikkim, one of the four sites of the study, is renowned among the international trekking community for being the starting point of the Gochala trek to the base of Mount Khanchendzonga. Pack animals used in the tourism sector in the region include horses and

dzo. The locals involved in tourism find employment as porters, pack animal operators, tour guides, and vehicle drivers and run establishments like homestays and hotels. Over the last two decades, post-ban, households in the study area have become increasingly involved in the hotel and restaurant businesses catering to growing tourism in the region.

Figure 1: Location of the Study Area: Khangchendzonga National Park, Buffer Zones, and the Four Village Clusters



Source: Author

4. METHODS

Primary data collection was done between October 2017 and November 2019. Four village clusters in the study site were identified during the pilot survey conducted in April 2017. We used mixed methods for this study: semi-structured interviews, focus group discussions, and key informant interviews.

The lead author compiled a list of ex-herders with the help of village elders and members of the Eco-Development Committee, Joint Forest Management Committee, and Khangchendzonga Conservation Committee (the second and third author). As a follow-up, a semi-structured questionnaire was developed to understand the implementation of the ban, the responses of the herders, and their long-term coping strategies post-

eviction. We conducted 40 semi-structured household interviews, primarily with household heads. Since the ex-herders were mostly males who spent a lot of time alone inside the park, most of the interviews were conducted with males ($n = 32$). However, in cases where females had lived inside the park or had experienced eviction, they were interviewed as well ($n = 4$). In some cases, where the ex-herders were either too elderly or had died, interviews were conducted with their family members ($n = 4$).

During these interviews, snowball sampling was employed to maximize the sampling efforts and ensure the inclusion and participation of ex-herders from all wealth classes and animal-rearing communities, i.e., sheep, dzo, cattle, and yak herders. Categorization by wealth class was carried out post-fieldwork, based on the number of animals owned, landholding size, and the type of house respondents owned. During the field surveys, we noticed that some of the households were still agitated about the state-led displacement and refused to engage in conversation about it.

Respondents were briefed about the research, and consent was taken before the interviews. The interviews were scheduled based on the time availability of the respondents. The lead author had made the ancillary effort of learning the locally spoken language, Nepali. A research assistant was also employed from the study area to assist with translation and avoid any confusion or uncertainty. Most of the interviews were conducted in Nepali and were later translated to English. Transcripts were saved with pseudonyms to preserve the anonymity and confidentiality of the respondents. After the interviews, three focus group discussions and seven key informant interviews were conducted for data triangulation as well as to sort out any queries that had risen during the semi-structured interviews.

5. RESULTS

5.1 Grazing Ban and Pastoralist Evictions

The grazing ban was implemented based on the assumption that “overgrazing” led to the degradation of forests due to grazing practices, illegal wildlife poaching, medicinal plant extraction, and tree felling by the herders. According to the respondents, no study was conducted before the grazing ban was implemented to understand the impact of grazing or identify the individuals who were involved in illegal practices. At the time of the ban, there were close to 103 herders who had a little over 200 *goaths* or temporary shelters inside the park. Herders of yak, sheep, dzo, and cattle used to live for six to nine months inside the park. Some of the herders also had multiple herds of buffalo, sheep, dzo, and yak that they reared with the help of hired assistants/caretakers.

Table 1: Summary of Responses Regarding the Implementation of the Pastoralist Displacement

Responses Associated with the Grazing Ban Implementation	Percentage of Respondents
Information attained through fellow villagers/panchayat	25.0
Received no prior notice	37.5
Received notice personally	37.5
Believed policy implementation methods were inappropriate	100.0
Believed there was no participation in the planning process	100.0

Source: Author's compilation, 2017-2019

Most respondents (75%) mentioned that they had either learned of the ban at the time of eviction or from fellow-villagers just before evictions. However, the remaining 25%, primarily a few herders from the Yuksom and Uttarey clusters, mentioned that they had received multiple notices from forest guards between 1999 and 2001. The ex-herders of the Yuksom cluster also mentioned that a sensitization drive was conducted by forest officials and conservation agencies to make the herders aware of the role of biodiversity conservation and the impacts of grazing. These respondents attributed the sensitization drive to the pro-people approach of the forest official who conducted the eviction drive in Yuksom cluster. They also believed that the conservation NGO, Khangchendzonga Conservation Committee, was perhaps the reason why the eviction drive at Yuksom included sensitization programmes. In the rest of the responses, evictions were imposed by force, warnings, and threats.

The ex-herders reported that the state did not plan any rehabilitation or alternative income sources for them and neither were they involved in the planning stage of the ban. Only two herders received a sum of ₹10,000 for abandoning their pastoral practices. All of the ex-herders were highly aggrieved by the methods adopted by the government in implementing the grazing ban and pastoral evictions, which involved the use of force.

5.2 Herders' Responses to the Ban and Displacement

Out of the 40 ex-herders we interviewed, most had simply abandoned their grazing practices after learning of the ban, while the rest had attempted to resist it. Those with the smallest herds (low-class) left their *goaths* (temporary sheds of herders inside the park) and sold their animals within a year of the ban being implemented at less than half of their actual value, mostly to herders in Nepal. The greatest loss was borne by this set of herders; due to their fear of the law and lack of capital, they desisted from getting involved in legal battles. The second category of herders (middle-class) physically opposed eviction and supported the bigger, more influential herders in filing a legal case against the grazing ban. The herders in the third category used their social capital to deal with the ban, and three out of six of these herders continued herding inside the park.

Ex-herders' responses to the grazing ban can be grouped into three categories: 1) passive acceptance of the ban, 2) physical and legal resistance to the ban, and 3) getting by with the use of social networks and power.

Ex-herders with the smallest herds (the low wealth class) (n = 18) were the first to abandon their pastoral practices out of fear of law enforcement. These herders abandoned their animals or sold them in the villages of Sikkim and Nepal within a year of the news of the ban. These herders ended up facing the greatest monetary loss. After quitting their pastoral practices, four of these herders joined the forest department in enforcing the eviction drive, which resulted in long-term social conflicts, since the evicted felt cheated by their own community members. The herders who had helped with the evictions continue to face social exclusion on a day-to-day basis in their villages.

Most of respondents were not even aware of the reasoning behind the ban; during interviews, they used the term “*jungle band*” for the ban, meaning that the forests were closed to them. As mentioned by one of the respondents:

I do not know why the forest closed, but this *kanoon* (law) should not have come. We, the herders, did not have any other source of income besides rearing animals. After the jungle closed, I brought my animals back, but they became weak within a few days due to lack of good fodder that they used to get inside the jungle. We were not aware of the law, so we simply sold our animals. There were some active people who kept their animals for some time in the remote regions and sold them later at relatively better prices.

Herders from the middle wealth class resisted the ban. Some of them even got involved in a physical tussle with forest guards at the time of eviction.

The ex-herders from the middle and high wealth classes were politically active and initiated meetings with the village panchayat soon after learning of the ban. They did not stop herding for almost a year but were forced to do so when the forest department began planting trees in and around the protected areas. Fences restricted access to the forests, and eventually the middle-class herders—who were mostly cattle herders—stopped rearing animals. Most of these ex-herders joined forces with the bigger, more powerful herders and filed a case against the grazing ban. These herders continually contested the ban and had confrontations with members of the forest department and the state during the legal battle. As stated by one of the respondents:

I had gone to Geyzing, and we had filed a case there with others. There were other people with me who were also against the grazing ban, from Uttarey and Nambu. They (forest guards) said that the herders were hunting wildlife; if that is true, they should have looked for the culprits. We tried to resist a lot for almost a year, but they pushed us out eventually.

Although herders from the middle wealth rank contributed monetarily and in communal strength toward filing the case, the individuals from the high wealth category became the face of the legal battle. As noted in one of the responses:

We all filed a case on behalf of the village herding community—all sheep, cow, and yak herders together. The case got filed almost the same year in the district court of Geyzing and then in the Gangtok High Court. Many of the herders paid for the case, but a few influential ones became the face of the resistance and our representatives. There were one or two hearings that happened in Gangtok, but we lost the case eventually. Who could fight with the government?

The third set of ex-herders, the high wealth class, were the most influential and affluent ($n = 6$). Two of these herders had multiple *goaths* of yak, cattle, and sheep, and four had large yak herds only. These herders used different methods to cope with the ban and evictions. For example, one of the yak herders transferred his herd to the pastures of neighbouring Nepal during the eviction drive. He used his social network to stay in Nepal for close to six months. Another moved into the higher reaches of KNP, and using his political connections led the legal case for almost a year. He never stopped yak rearing even after the case was lost. Two other yak herders left their animals in the park for a few months and resumed rearing them once the eviction drives had ended. It was relatively easier for the four yak herders to

deal with the ban, since yaks do not require daily attention like sheep and cattle. The other two who had multiple *goaths* of cattle and sheep, however, sold their animals, including one herder who traded his buffaloes for metal utensils from the blacksmith. The three yak herds have now doubled in number, and at present, there are six herds of yak in KNP. However, during the interviews, the owners of these herds refused to accept that the yaks inside the park belonged to them.

Table 2: Summary of Responses and Explaining Factors for the Ex-herders in Different Wealth Classes

Wealth Class	Low	Middle	High
No. of ex-herders	18	16	6
Responses to ban	Passive acceptance	Resistance and retaliation (Both physical and through legal channels)	Did not accept the law
Animal-rearing practices	Stopped herding and sold their herds within a year of the ban at less than half of their value	Resisted for three years (1999–2002) and sold animals at relatively better prices	Never stopped animal rearing and continued herding inside the park
Explaining factors	Lack of knowledge, power, and money to file a complaint or resist	Had social networks and financial capital to fight a case; formed alliances with elite and powerful herders	Used cross-border social networks in Nepal and powerful political connections

Source: Author’s compilation, 2017–2019

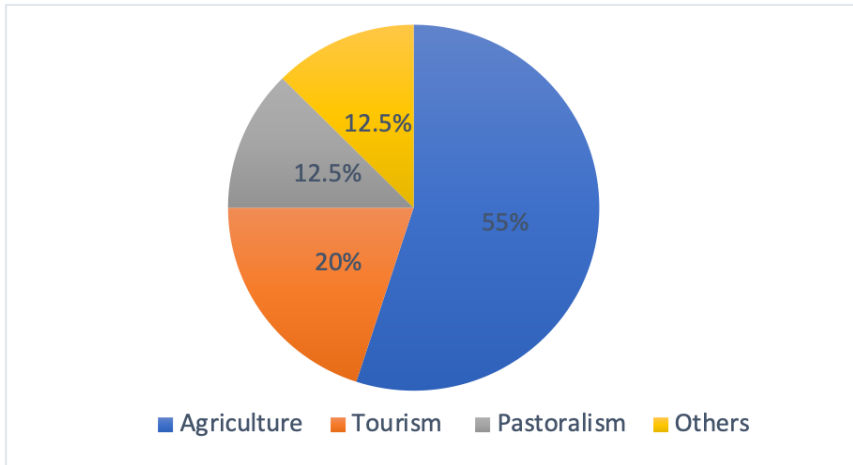
By the end of the physical evictions and political tussle, three powerful herders continued to rear their yaks and dzo inside KNP. Given the remote geography and limited manpower available, the forest department could not remove these herders. The number of yaks and their herds have in fact doubled in number from the time of ban. Respondents also attributed their continued grazing to their connections with regional politicians. In essence, the conservation initiative eventually resulted in big herders gaining exclusive access to pastures, whereas the low and middle wealth class struggled and bore the cost of “biodiversity conservation”. In the next

section, I present the livelihood changes and associated challenges that these two sets of herders face.

5.3 From Pastoralists to Farmers: Livelihood Change and Associated Challenges

Ex-herders opted for a variety of livelihoods including cardamom cultivation and vegetable farming, rearing stall-fed animals, i.e., cattle and sheep, working as wage labourers under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), running shops, and raising pack animals for trekking groups (Fig. 2). However, the majority of the ex-herders had no recourse but to rely on agricultural land. The ban resulted in the transformation of pastoralists into farmers, which consequently led to a drastic change in local agriculture, from self-sufficient traditional cropping of maize to market-based cash cropping of large cardamom and vegetable cultivation. Traditional agricultural practices in the region involved the cultivation of a wide variety of local crops including mustard, buckwheat barley, soybean, corn, maize, and millets depending on the household's landholding. However, when the ex-herders started farming, it was primarily to generate an income, and so they mostly planted cash crops, i.e., vegetables, maize, and cardamom depending upon the climatic conditions around their portions of land.

Figure 2: Current Livelihood Profile of the Ex-herders Interviewed (n = 40)



Source: Author's analysis, 2017–2019

Figure 2 shows that most of the ex-herders are involved in agriculture (55%), followed by tourism-associated livelihoods (20%), pastoral herding (12.5%), and other livelihoods (12.5%) such as driving private cars, running

shops, and working as labourers. Out of our total sample of ex-herders ($n = 40$), the majority ($n = 22$) are currently dependent on agriculture (predominantly cardamom) and dairy (selling the milk of stall-fed cows) and about 20% ($n = 8$) are associated with tourism-related livelihoods, e.g., rearing pack animals or working as cooks and porters. Five of the ex-herders are rearing livestock inside the park, out of which three are yak herders that continued to herd, one is a sheep herder who was evicted but started sheep herding again after obtaining the required permits from the forest department, and one ex-yak herder who had sold his yaks but is currently a caretaker for a yak herder in North Sikkim.

Table 3: Livelihood Profile and Income of the Ex-herders After Displacement

	Number of Ex-herders	Income Options	Annual Income in Rupees (Min – Max in Thousands)
Agriculture and stall-fed animal rearing	22	Large cardamom Vegetable Dairy business	144–160 10–20 180–210
Tourism-associated livelihoods	8	Pack animal operators Porters/guide	72–100
Herding (yak and sheep)	5	Yak herding Sheep herding	500–600 150–200
Other	5	Shop and private vehicle driver	150–200

Source: Author's compilation, 2017–2019

The respondents mentioned that their income from pastoral practices would have been at least double of what they are earning now, even after combining multiple alternative livelihoods. The ex-cattle herders said that they used to sell butter, ghee, and *chhurpi* (hard cheese) in the surrounding villages and towns. Sheep herders sold woolen products such as shawls locally known as *raadi* and jackets known as *lukumi*. While they used to be priced at ₹200–300, they now sell for ₹1,000. Sheep meat went for ₹80–120 per kg but has now increased to ₹400 per kg. Sheep ghee and butter are still used for medicinal purposes but now cost ₹1500 per kg, which is drastically higher than the former price. Wool that was priced at ₹50–80 per kg is now sold at ₹300 per kg. They mentioned that the yak herders at present could

make ₹5–6 lakhs annually, since yak herders used to sell 10–20 yaks every year, including young ones and older animals. Cheese and butter from the yaks were sold in Yuksom and were supplied to Gangtok and Darjeeling as well, and yak herders used to make 3–4 kgs of cheese in one day with ease during the months of June, July, August, and September. Yak tail-hair used to be sold for ₹5,000.

Respondents mentioned that all these alternative options have their own limitations and associated problems. While cardamom cultivation has been lucrative over the last decade, production has reduced by half in the last five years, since 2012. The current production is between nine to ten *man*, a local term for 40 kgs, sold for between ₹1,44,000 and ₹1,60,000. However, cardamom cultivation was not viable in all the village clusters, especially in Uttarey, where the altitude is a little high for the successful growth of cardamom. Ex-herders in this cluster, therefore, sell vegetables and work as pack animal operators.

Ex-herders from the Uttarey cluster who now farm vegetables reported a recent increase in crop-raiding by wild boar and black bear. Given that it is their sole source of income, crop depredation by wild animals has emerged a new conservation challenge in the region. Most of the respondents attributed the increased incidence of human–wildlife conflicts to pastoral eviction, explaining that the lack of open spaces after the removal of pastoralists, and the reduction of animal dung inside the forest, which animals such as wild boar feed on, is attracting wild animals to the villages. Another income option available to the ex-herders is the MGNREGA—two members of a household can work for a maximum of 100 days at the rate of ₹175 per day, but there is rarely sufficient work to engage villagers for 100 days. Furthermore, even on obtaining jobs, there are delays and deductions in payments. Dairy depots were started in the study sites during 2008–2009. The dairy business allowed ex-herders to earn between ₹72,000–₹1,44,000 from two cows in six months. Even so, daily sales were possible only in Tsong village of Yuksom cluster and was not a feasible option in the rest of the clusters.

Ex-herders rearing pack animals like dzo and horses mentioned that they worked rotationally and were dependent on the trekking season and tourists numbers every season. One pack animal may bring in ₹8,000–₹15,000 over one trekking season (April–June or October–December). They mentioned that the animals need to be fed oil, eggs, and good-quality stall-feed before trekking tours. A proper diet is essential to ensure the satisfactory performance of the animal during the trek. On average, respondents had four to six pack animals, which earned them an annual income of between

₹72,000–₹1,00,000, wherein they spent close to half of their earnings on the animal. They also reported that there were several instances of accidental injury or death of the animals during the treks, which is a great loss for the operator.

6. DISCUSSION

Earlier studies have shown that analyses that see pastoralists' resource use as a challenge for biodiversity conservation are too linear and require far more nuanced, on-ground research. For instance, in the case of Sariska Tiger Reserve, urban dependence on the park and timber extraction pressures were found to be far more detrimental to the park's ecology than the sustainable pastoral practices of the Gujjar herders. In another example involving Keoladeo National Park, the eradication of water buffalo herding led to a decline in migrant bird populations. Grazing in the park had helped in maintaining the ecological balance by keeping a check on weeds; removing the herders upset this balance (Lewis 2003). However, the eviction of Sikkim pastoralists is not a clear-cut case of conservation-induced displacement but a unique one influenced by the politics of knowledge production and state politics around pastoralism. Pastoral practices, which were seen as an integral part of local culture and were promoted during the period of monarchy until the 1950s, were reframed as a primitive way of living in the modern state of Sikkim. The grazing ban is an important subject of political discussion and argument among the leading electoral parties, with the opposition party promising to repeal the ban at the time of the fieldwork of this study. Most of the respondents mentioned that they had neither been aware of the grazing ban beforehand nor the reasons for the pastoral evictions. They also reported that no consent had been taken from them prior to the evictions, which was clearly against the Biodiversity Convention rules (Kothari and Pathak 2009). The pastoral evictions at KNP were based on the popular "overgrazing" narrative, and no systematic analysis was conducted to establish the relation between grazing and vegetation degradation. The absence of scientific studies prior to displacement, and the lack of an objective assessment showing ecological benefits, have been some of the strongest critiques of conservation-induced displacement across India (Kabra 2019; Kothari and Pathak 2009; Lasgorceix and Kothari 2009; Rangarajan and Shahabuddin 2009). There was also speculation about some pastoralists being engaged in illegal trade of medical plants and wildlife poaching, but instead of looking for individual culprits, the government adopted the simpler solution of a grazing ban and pastoral evictions.

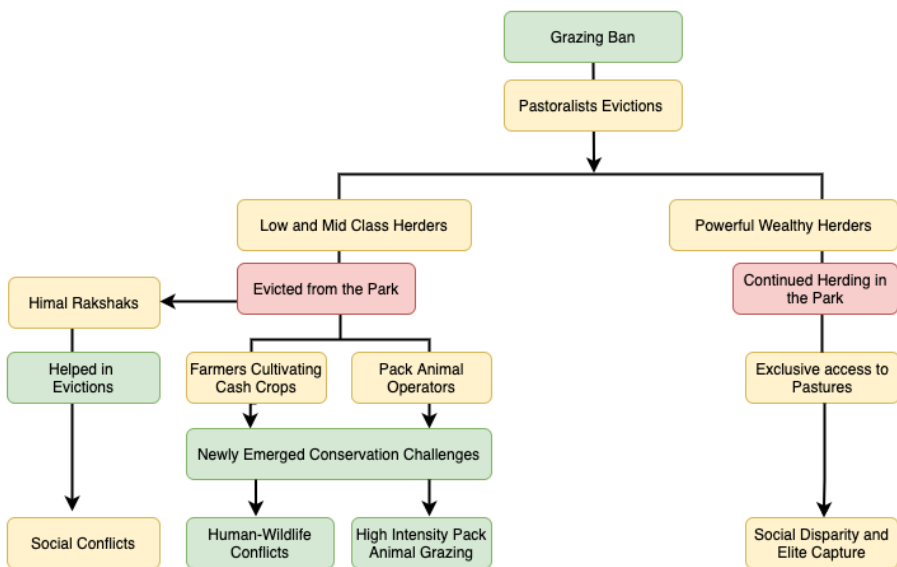
6.1 Overall Long-term Implications of the Grazing Ban and Displacement

Earlier empirical studies in India have highlighted that conservation-induced displacements have a wide variety of social and ecological outcomes. Some of the examples include the case of Similipal Tiger Reserve, Odisha, where farmer evictions resulted in increased food insecurity (Dash and Behera 2018), and the case of Sahariya evictions from Kuno Wildlife Sanctuary, Madhya Pradesh, where evictions deteriorated material conditions due to loss of livelihoods and alienation from the natural resource base (Kabra 2009). In the case of Biligiri Ranganathaswamy Temple Tiger Reserve, Karnataka, evictions resulted in the dispossession of the rural poor and reduced income post-eviction and led to the emergence of new conservation challenges in the form of increased weeds inside the park and an increase in human–wildlife conflicts (Rai, Benjaminsen, Krishnan, and Madegowda 2019). Even in the case of KNP, long-term implications included economic impoverishment of pastoralists, loss of livelihood due to loss of access to the park, cultural loss of pastoral practices, the transition of pastoralists to farming and other small, private, and tourism-related jobs, and a widening economic gap between the small and big herders. All these repercussions, in turn, resulted in social conflicts between community members along with the emergence of new conservation challenges. The grazing ban and evictions had questionable benefits for the ecology of the park and have not necessarily helped in solving the issue of perceived “overgrazing”.

The involvement of some ex-herders in the evictions resulted in social conflicts; ex-herders faced hostility and social exclusion for breaching the trust of their own community members. Ex-herders who had shifted to farming mentioned that incidents of crop depredation by wild boar and black bears had increased in the recent past after the implementation of the grazing ban. They also attributed the more frequent instances of human–wildlife conflicts to the lack of any open expanses inside the forests, as herders used to maintain empty spaces around their *goaths*. The frequency of these incidents has created new conservation challenges in and around KNP. Even the ex-herders noticed that their forced absence had negatively influenced the ecology of the region, especially of high-altitude summer pastures, noting instances of delayed flowering and increased domination by non-palatable species in the rangelands (Singh *et al.* 2021). A small percentage of the ex-herders now worked in tourism within KNP in the lowest-paying jobs and explained how the evictions had resulted in their economic impoverishment and marginalization. Further, they reported that unlike the rotational grazing that they used to practice, pack animals were

kept in one area during the non-tourist seasons, resulting in negative impacts on the ecology of the pastures. Big and wealthy herders gained exclusive access to the park, and, therefore, their herd sizes have doubled over the last 15 years, which has further widened the gap between small and big herders. Overall, the long-term implications have been economic impoverishment, emergence of new conservation challenges, social disparities, and a wider economic gap between the small and big herders.

Figure 2: Long-term Implications of the Grazing Ban: Social Conflicts, Emergence of New Conservation Challenges, and Social Disparity



Source: Author’s analysis

Unplanned displacements and the absence of alternative options in other parts of India have resulted in a variety of conservation challenges. In Orissa, for instance, Adivasi relocation for the biodiversity conservation of Lakhari Valley eventually increased the rate of human–elephant conflicts (Ramdas 2010). In another study, Rangarajan and Shahabuddin (2009) reported similar findings of newly emerging conservation challenges with the removal of herders from Kanha National Park in Madhya Pradesh, India. Over time, forest officials had to manually cut and burn the understory of the forest to provide space for wild ungulates, proving that some level of human disturbance was indeed beneficial for the forests (Rangarajan *et al.* 2010).

Do All Pastoralists Pay for “Biodiversity Conservation”?

While there has been limited research on the consequences of pastoral evictions, our findings share similarities with earlier work on physical displacements that highlight that conservation-induced displacement has the greatest impact on weaker sections within the displaced community (Hall *et al.* 2014; Rantala, Vihemäki, Swallow, and Jambiya 2013). It is important to note that in KNP, the grazing ban has had differing impacts on herders. Responses to the pastoral evictions have also varied based on wealth class. The findings of the study conducted by Rantala *et al.* (2013), in the Derema region of Tanzania, echoes ours, as it highlights the diverse impacts of displacement on displaced farmers based on wealth class. Despite the influential and big farmers receiving easy and timely access to compensation, the poor did not, which further reinforced existing inequalities and social differentiation.

In the case of Sikkim, the low- and middle-class herders of Sikkim adopted a variety of livelihoods to cope with the sudden loss of income. Similar findings were observed by Hall *et al.* (2014), in Tanzania, where the lower two categories of the displaced community combined a diverse set of occupations to make a living—running shops, trading, and building rental houses (Hall *et al.* 2014). Rantala *et al.* (2013) have shown that the lower and the middle class used up all their money to meet immediate needs after the payment of rehabilitation packages, resulting in economic loss and reduced land size. Reduced income post evictions is a similar finding that has been previously reported in a study conducted in Tanzania, where a local community around Uluguru Nature Reserve lost access to cultivation land inside a protected area. They continued to face reduced income and livelihood uncertainty even after the evictions were completed (Nyenza, Nzunda, and Katani 2013). In short, big herders benefitted from the grazing ban and raked in increased profits, while the cost of biodiversity conservation was borne by the poor. Our study, thus, contributes to the school of work that highlights that the long-term implications of unplanned conservation-induced displacement are definitively negative for lower wealth classes with absolutely no evidence of conservation benefits.

7. CONCLUSION

Given the wide variety of flora and fauna in KNP, biodiversity conservation inside the park is absolutely critical, and efforts must certainly be made in this direction. However, it should not be undertaken at the cost of social and economic losses or in the absence of systematic studies and planning. Instead, conservation efforts should involve rural locals from lower wealth classes to identify how local livelihoods like pastoralism can co-exist with

conservation agendas in the region. The most acute impacts of the ban for ex-herders were loss of livelihood and income, following their restricted access to grazing grounds (for majority of herders from lower and middle wealth class) and transition of pastoralists to farming. While legal recourse was sought through an alliance between the ex-herders of the middle and high wealth classes, only the powerful and elite became the face of this political tussle. Additionally, even after losing the legal battle, the powerful herders continued to use the pastures inside KNP and have doubled their herd sizes over the past 15 years. However, the low and middle-class pastoralists were severely impacted and were further marginalized after losing access to the park. Given the lack of advance planning of alternative livelihoods and rehabilitation packages, the middle and low wealth class herders continue to face long-term challenges, even after opting for other available alternatives. Conservation-induced displacement without providing alternative plans and livelihood options for the displaced community has been widely critiqued as being unethical and socially unjust (Rangarajan and Shahbuddin 2009; Brockington 2004), wherein the cost of conservation is exclusively paid by the poor for the regional and global good (Beinart and Coates 1995; Madhusudan and Raman 2003; Saberwal *et al.* 2001). Our study offers yet another example where the poor pastoralists of KNP ended up paying the price for its conservation.

Earlier research conducted in the field of conservation-induced displacement in India mostly focussed on the immediate implications of displacement, barring a few exceptions where researchers have maintained a long-term engagement with displacement geographies and their micropolitics (Kabra and Mahalwal 2019). Given the 15-year gap between the evictions and this research, our study seeks to further understand the long-term implications of unplanned evictions and highlights the socio-ecological complexities of pastoral evictions in Indian Himalaya. The removal of indigenous communities has been widely critiqued for being based on no scientific evidence or for focusing solely on ecosystem structure and function, without exploring variable human pressures (Rangarajan and Shahbuddin 2009). It has been further argued that while the benefits of conservation are reaped by regional, national, and global players, its costs are borne primarily by the local poor, who are already marginalized (Balmford and Whitten 2003; Kabra 2018). In case of KNP too, protected areas that had previously been used only by local herders were eventually made accessible to regional and national tourists, and “conservation” was achieved at the cost of pastoral livelihoods. Community-based initiatives have been identified to be the best alternative to displacement in rich biodiversity sites (Lasgorceix and Kothari 2009).

Pastoral evictions have long been believed to be the only method of conserving rangelands across Asia and Africa. However, as seen in the case of KNP, such evictions may result in a variety of social and conservation conflicts in the long run and may completely fail to address the primary issue of “overgrazing”, whether perceived or real. Within KNP, there are several sites with no exposure to grazing for over 15 years as well as sites where grazing never ceased. KNP can thus be an excellent model to examine the effects of grazing and study the role of pastoralism. Future research in the region should consider the impacts of different grazing intensities on floral and faunal diversity and should potentially provide important insights into rangeland conservation and management. Investigating the role of climate change may add another layer to this discussion. Taking into consideration the current state interest in repealing the ban, future research can focus on documenting the process of reintroducing pastoralism and how the cultural and economic dimensions of pastoralism unfold with such a reintroduction.

Instead of removing the pastoralists, a successful conservation plan could be co-opting local knowledge and institutions and identifying ways of co-existence in the pastoral landscape of India while paying closer attention to questions of equality and sustainability. Government agencies must engage with local formal and informal institutions to re-initiate rotational grazing practices, help deal with wildlife crimes, monitor livestock, and maintain equity among local herders. Pastoralists’ knowledge and pastoral institutions can be extremely helpful in co-evolving mechanisms to ensure biological conservation, as well as sustainable livelihood options in and around the protected areas of South Asia.

ACKNOWLEDGMENTS

We sincerely thank the Forest, Environment, and Wildlife Department and the Government of Sikkim for their support. The pilot study for this research was funded by the Ambedkar University Delhi with the Learning Enhancement Fund. We thank Asmita Kabra for her guidance in the study design and her inputs at the early stages of manuscript writing. We are grateful to Rohit Negi and Rishi Kumar Sharma for their insights at different stages of study design and manuscript writing. Special thanks go to Syed Shoab Ali for discussions that helped improve the manuscript substantially. This research would not have been possible without our field assistants—Ramesh Chettri and Chatur Singh Limboo—and the generous support and interest of the ex-herders of West Sikkim. Comments and suggestions provided by two anonymous reviewers and copyedits by Chitralekha Manohar were extremely useful in improving on the manuscript.

REFERENCES

- Agrawal, Arun, and Kate Redford. 2009. "Conservation and Displacement: An Overview." *Conservation and Society* 7 (1): 1–10. <https://doi.org/10.4103/0972-4923.54790>
- Balmford, Andrew, and Tony Whitten. 2003. "Who Should Pay for Tropical Conservation, and How Could the Costs Be Met?" *Oryx* 37 (2): 238–250. <https://doi.org/10.1017/S0030605303000413>
- Behnke, Roy, and I Scoones. 1992. "Rethinking Range Ecology: Implications for Rangeland Management in Africa." *Issue Paper* 33. London: International Institute for Environment and Development.
- Beinart, William, and Peter Coates. 1995. "Environment and History: The Taming of Nature in USA and South Africa." London: Routledge. <https://doi.org/10.4324/9780203295786>.
- Bhagwat, Shweta, Manasi Diwan, and Vivek Venkataramani. 2012. "Study of Ecological and Socio-Economic and Livelihood: Dimensions of Grazing Exclusion in Protected Forests of West Sikkim."
- Briske, David D, Sam D Fuhlendorf, and Fred E Smeins. 2003. "Vegetation Dynamics on Rangelands: A Critique of the Current Paradigms." *Journal of Applied Ecology* 40 (4): 601–614. <https://doi.org/10.1046/j.1365-2664.2003.00837.x>
- Brockington, Dan. 2004. "Community Conservation, Inequality and Injustice: Myths of Power in Protected Area Management." *Conservation and Society* 2 (2): 411–432.
- Brockington, Daniel, and Jim Igoe. 2006. "Eviction for Conservation: A Global Overview." *Conservation and Society* 4 (3): 424–470. Ashoka Trust for Research in Ecology and the Environment and Wolters Stable. <https://doi.org/10.1111/j.1523-1739.2006.00335.x>
- Caravani, Matteo. 2019. "'De-pastoralisation' in Uganda's Northeast: From Livelihoods Diversification to Social Differentiation." *Journal of Peasant Studies* 46 (7): 1323–1346. <https://doi.org/10.1080/03066150.2018.1517118>
- Cernea, Michael M. 2005. "'Restriction of Access' is Displacement: A Broader Concept and Policy." *Forced Migration Review* (28): 48–49.
- Cernea, Michael M, and Kai Schmidt-Soltau. 2006. "Poverty Risks and National Parks: Policy Issues in Conservation and Resettlement." *World Development* 34 (10): 1808–1830. <https://doi.org/10.1016/j.worlddev.2006.02.008>
- Colchester, Marcus. 2004. "Conservation Policy and Indigenous Peoples." *Cultural Survival Quarterly* 28 (1): 1–17. <https://doi.org/10.1016/j.envsci.2004.02.004>.
- Conte, Thomas J, and Bryan Tilt. 2014. "The Effects of China's Grassland Contract Policy on Pastoralists' Attitudes Towards Cooperation in an Inner Mongolian Banner." *Human Ecology* 42 (6): 837–846. <https://doi.org/10.1007/s10745-014-9690-4>.

- Dash, Madhusmita, and Bhagirath Behera. 2018. "Biodiversity Conservation, Relocation and Socio-economic Consequences: A Case Study of Similipal Tiger Reserve, India." *Land Use Policy* 78 (June): 327–337. <https://doi.org/10.1016/j.landusepol.2018.06.030>.
- Ellis, James E, and David M Swift. 1988. "Stability of African Pastoral Ecosystems: Alternate Paradigms and Implications for Development." *Journal of Range Management* 41 (6): 450–459. <https://doi.org/10.2307/3899515>.
- Fanari, Eleonara. 2019. "Relocation from Protected Areas as a Violent Process in the Recent History of Biodiversity Conservation in India." *Ecology, Economy and Society—the INSEE Journal* 2 (1): 43–76. <https://doi.org/10.37773/ees.v2i1.55>.
- Gonin, Alexis, and Dennis Gautier. 2015. "Shift in Herders' Territorialities from Regional to Local Scale: The Political Ecology of Pastoral Herding in Western Burkina Faso." *Pastoralism* 5 (1). <https://doi.org/10.1186/s13570-015-0023-z>.
- Gooch, Pernille. 2009. "Victims of Conservation or Rights as Forest Dwellers: Van Gujjar Pastoralists Between Contesting Codes of Law." *Conservation and Society* 7 (4): 239–248. <https://doi.org/10.4103/0972-4923.65171>.
- Hall, Jaclyn M, Neil D Burgess, Salla Rantala, Heini Vihemäki, George Jambiya, Roy E Gereu, Fortunatus Makonda, Fadhili Njilima, Adam Kizaji. 2014. "Ecological and Social Outcomes of a New Protected Area in Tanzania." *Conservation Biology* 28 (6): 1512–1521. <https://doi.org/10.1111/cobi.12335>.
- Ichinkhorloo, Byambabaatar, and Emily T Yeh. 2016. "Ephemeral 'Communities': Spatiality and Politics in Rangeland Intervention in Mongolia." *Journal of Peasant Studies* 43 (August): 1010–1034. <https://doi.org/10.1080/03066150.2016.1168812>.
- Ingtu, Tenzing. 2021. "Pastoralism in the Highest Peaks: Role of the Traditional Grazing Systems in Maintaining Biodiversity and Ecosystem Function in the Alpine Himalaya." *PLOS ONE* 16 (1): 1–19. <https://doi.org/10.1371/journal.pone.0245221>.
- Kabra, Asmita. 2009. "Conservation-induced Displacement: A Comparative Study of Two Indian Protected Areas." *Conservation and Society* 7 (4): 249. <https://doi.org/10.4103/0972-4923.65172>.
- Kabra, Asmita. 2018. "Dilemmas of Conservation Displacement from Protected Areas." In *Challenging the Prevailing Paradigm of Displacement and Resettlement: Risks, Impoverishment, Legacies, Solutions*, edited by Michael M Cernea and Julie K Maldonado, 117–140. New York: Routledge. <https://doi.org/10.4324/9781315163062-6>.
- Kabra, Asmita. 2019. "Ecological Critiques of Exclusionary Conservation." *Ecology, Economy and Society—the INSEE Journal* 2 (1): 9–26. <https://doi.org/10.37773/ees.v2i1.51>.

- Kabra, Asmita, and Sonam Mahalwal. 2019. “The Micropolitics of Dispossession and Resistance: Case Study of a Proposed Dam in Central India.” *Development and Change* 50 (6): 1509–1530. <https://doi.org/10.1111/dech.12447>
- Kohli, Mayank, Tserennadmid Nadia Mijiddorj, Kulbhushansingh Ramesh Suryawanshi, Charudutt Mishra, Bazartseren Boldgiv, and Mahesh Sankaran. 2021. “Grazing and Climate Change Have Site-Dependent Interactive Effects on Vegetation in Asian Montane Rangelands.” *Journal of Applied Ecology* 58 (3): 539–549. <https://doi.org/10.1111/1365-2664.13781>.
- Korf, Benedikt, Tobias Hagmann, and Rony Emmenegger. 2015. “Re-spacing African Drylands: Territorialization, Sedentarization and Indigenous Commodification in the Ethiopian Pastoral Frontier.” *The Journal of Peasant Studies* 42 (5): 881–901. <https://doi.org/10.1080/03066150.2015.1006628>.
- Kothari, Ashish, and Neema Pathak. 2009. “Conservation and Rights in India: Are We Moving Towards Any Kind of Harmony?” Pune: Kalpavriksh: Environmental Action Group.
- Lam, LaiMing, and Saumik Paul. 2014. “Disputed Land Rights and Conservation-led Displacement: A Double Whammy on the Poor.” *Conservation and Society* 12 (1): 65–76. <https://doi.org/10.4103/0972-4923.132132>.
- Lasgorceix, Antoine, and Ashish Kothari. 2009. “Displacement and Relocation of Protected Areas: A Synthesis and Analysis of Case Studies.” *Economic and Political Weekly* 44 (49): 37–47.
- Lewis, Michael. 2003. “Cattle and Conservation at Bharatpur: A Case Study in Science.” *Conservation and Society* 1 (1): 1–21. <https://www.jstor.org/stable/26396448>.
- Li, Shou-Li, Fei-Hai Yu, Marinus JA Werger, Ming Dong, Satu Ramula, and Pieter A Zuidema. 2013. “Understanding the Effects of a New Grazing Policy: The Impact of Seasonal Grazing on Shrub Demography in the Inner Mongolian Steppe.” *Journal of Applied Ecology* 50 (6): 1377–1386. <https://doi.org/10.1111/1365-2664.12159>.
- Madhusudan, MD, and TR Shankar Raman. 2003. “Conservation as if Biological Diversity Matters: Preservation versus Sustainable Use in India.” *Conservation and Society* 1: 50–59.
- Mortimore, Michael. 1998. “Roots in the African Dust: Sustaining the Sub-Saharan Drylands.” Cambridge, United Kingdom: Cambridge University Press. <https://doi.org/10.1017/CBO9780511560064>.
- Muhammed, Faheem. 2020. “Culture, Communication and Colonial Forest Policy: Van Gujjar Marginalization and Struggle for Forest Rights.” *International Journal of Multidisciplinary Educational Research* 9 (9): 27. <https://doi.org/10.6084/m9.figshare.13128326.v1>.

- Mwaikusa, JT. 1993. "Community Rights and Land Use Policies in Tanzania: The Case of Pastoral Communities." *Journal of African Law* 37 (2): 144–163. <https://doi.org/10.1017/S0021855300011219>.
- Myers, Norman, Russell A Mittermeyer, Cristina G Mittermeyer, Gustavo AB da Fonseca, and Jennifer Kent. 2000. "Biodiversity Hotspots for Conservation Priorities." *Nature* 403 (6772): 853–858. <https://doi.org/10.1038/35002501>.
- Nyenza, Oliva Marcus, Emmanuel F Nzunda, and Josiah Z Katani. 2013. "Socio-ecological Resilience of People Evicted for Establishment of Uluguru Nature Reserve in Morogoro Region." Tanzania. *Forests, Trees and Livelihoods* 22 (3): 37–41. <https://doi.org/10.1080/14728028.2013.810405>.
- Pozo, RA, JJ Cusack, P Acebes, JE Malo, J Traba, EC Iranzo, P Corti, et al. 2021. Reconciling Livestock Production and Wild Herbivore Conservation: Challenges and Opportunities. *Trends in Ecology & Evolution* 36 (8): 1–12. <https://doi.org/10.1016/j.tree.2021.05.002>.
- Rai, Nitin D, Tor A Benjaminsen, Siddhartha Krishnan, and C Madegowda. 2019. "Political Ecology of Tiger Conservation in India: Adverse Effects of Banning Customary Practices in a Protected Area." *Singapore Journal of Tropical Geography* 40 (1): 124–139. <https://doi.org/10.1111/sjtg.12259>.
- Rangarajan, Mahesh, and Ghazala Shahabuddin. 2009. "Displacement and Relocation from Protected Areas Towards a Biological and Historical Synthesis." *Conservation and Society* 4 (3): 359–378. <https://doi.org/10.4103/0972-4923.49217>.
- Rantala, Salla E, Heini Vihemäki, Brent M Swallow, and George Jambiya. 2013. "Who Gains and Who Loses from Compensated Displacement from Protected Areas? The Case of the Derema Corridor, Tanzania." *Conservation and Society* 11 (2): 97–111. <https://doi.org/10.4103/0972-4923.115721>.
- Saberwal, Vasant Kabir. 1996. "The Politicization of Gaddi Access to Grazing Resources in Kangra, Himachal Pradesh, 1960 to 1994." *Himalaya, the Journal of the Association for Nepal and Himalayan Studies* 16 (1): 7–12.
- Saberwal, Vasant Kabir, Mahesh Rangarajan, and Ashish Kothari. 2001. *People, Parks and Wildlife: Towards Coexistence*. New Delhi, India: Orient Longman.
- Sagari Ramdas. 2010. "Gajah and Praja: Conservation, Control and Conflict." *Economic and Political Weekly* 45 (49).
- Salafky, Nick, and Eva Wollenberg. 2000. "Linking Livelihoods and Conservation a Conceptual Framework and Scale for Assessing the Integration of Human Needs and Biodiversity." *World Development* 28 (8): 1421–1438. [https://doi.org/10.1016/S0305-750X\(00\)00031-0](https://doi.org/10.1016/S0305-750X(00)00031-0).
- Schmidt, Matthias, and Olivia Pearson. 2016. "Pastoral Livelihoods Under Pressure: Ecological, Political and Socioeconomic Transitions in Afar (Ethiopia)." *Journal of Arid Environments* 124: 22–30. <https://doi.org/10.1016/j.jaridenv.2015.07.003>.

- Shahabuddin, Ghazala, Ravi Kumar, and Manish Shrivastava. 2007. “Creation of ‘Inviolable Space’: Lives, Livelihoods and Conflict in Sariska Tiger Reserve.” *Economic and Political Weekly* 42 (20): 1855–1862.
- Sharma, Eklabya, Rita Sharma, KK Singh, and G Sharma. 2000. “A Boon for Mountain Populations – Large Cardamom Framing in the Sikkim Himalaya.” *Mountain Research and Development* 20 (2): 108–111. [https://doi.org/10.1659/02764741\(2000\)020\[0108:ABFMP\]2.0.CO;2](https://doi.org/10.1659/02764741(2000)020[0108:ABFMP]2.0.CO;2).
- Singh, Rashmi. 2020. “Himal Rakshaks of Sikkim: The Burden of Being the Flag-bearers of Community-based Conservation.” *Ecology, Economy and Society—the INSEE Journal* 3 (July): 179–183. <https://doi.org/10.37773/ees.v3i2.110>.
- Singh, Rashmi, Rishi Kumar Sharma, Tsering Uden Bhutia, Kinzong Bhutia and Suresh Babu. 2021. “Conservation Policies, Eco-Tourism, and End of Pastoralism in Indian Himalaya?” *Frontiers in Sustainable Food Systems* 5 (March): 1–11. <https://doi.org/10.3389/fsufs.2021.613998>.
- Tambe, Sandeep, Nima Tashi Bhutia, and ML Arrawatia. 2012. “People's Opinion on the Impacts of ‘Ban on Grazing’ in Barsey Rhododendron Sanctuary, Sikkim, India.” Sikkim: The Mountain Institute (TMI), Sikkim Office.
- Tambe, Sandeep, and GS Rawat. 2009. “Ecology, Economics, and Equity of the Pastoral Systems in the Khangchendzonga National Park, Sikkim Himalaya, India.” *Ambio* 38 (2): 95–100. <https://doi.org/10.1579/0044-7447-38.2.95>.
- Vetter, Susanne. 2005. “Rangelands at Equilibrium and Non-equilibrium: Recent Developments in the Debate.” *Journal of Arid Environments* 62 (2): 321–341. <https://doi.org/10.1016/j.jaridenv.2004.11.015>.
- Weber, Keith, and Horst, Shannon. 2011. “Desertification and Livestock Grazing: The Roles of Sedentarization, Mobility and Rest.” *Pastoralism* 1(1): 19. <https://doi.org/10.1186/2041-7136-1-19>.
- Weldemichel, Teklehaymanot G. 2020. “Othering Pastoralists, State Violence, and the Remaking of Boundaries in Tanzania's Militarised Wildlife Conservation Sector.” *Antipode* 52 (5): 1–23. <https://doi.org/10.1111/anti.12638>.
- West, Paige, James Igoe, and Dan Brockington. 2006. “Parks and Peoples: The Social Impact of Protected Areas.” *Annual Review of Anthropology* 35: 251–277. <https://doi.org/10.1146/annurev.anthro.35.081705.123308>.
- Yeh, Emily T. 2005. “Green Governmentality and Pastoralism in Western China: Converting Pastures to Grasslands.” *Nomadic Peoples* 9 (1–2): 9–29. <https://doi.org/10.3167/082279405781826164>.
- Zhang, Jing, Xiaoyong Cui, Yanfen Wang, Gongbuzeren Minghao Zhuang, and Baoming Ji. 2020. “Ecological Consequence of Nomad Settlement Policy in the Pasture Area of Qinghai – Tibetan Plateau: From Plant and Soil Perspectives.” *Journal of Environmental Management* 260 (October 2019): 110114. <https://doi.org/10.1016/j.jenvman.2020.110114>.

[221] *Rashmi Singh, Kingong Sherap Bbutia, Tshering Uden Bbutia, Suresh Babu*

Zhizhong, Wu, and Du Wen. 2008. "Pastoral Nomad Rights in Inner Mongolia." *Nomadic Peoples* 12 (2): 13–33. <https://doi.org/10.3167/np.2008.120202>.