



COMPOSING WORLDS WITH ELEPHANTS

Interdisciplinary dialogues

Edited by
Nicolas Lainé
Paul G. Keil
Khatijah Rahmat


Éditions

collection
[mondes vivants]

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The mahout, Oupe, caringly hand-feeding the sub-adult female, Rohila, before she returns to the forest for the evening (Kamrup, Assam, 2014).



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CHAPTER 1

POLITICAL AND AFFECTIVE ECOLOGIES OF HUMAN-ELEPHANT RELATIONS

A gendered perspective

Sayan Banerjee, Anindya Sinha

INTRODUCTION

Relations between humans and elephants are ancient and ever-evolving. Histories and geographies of the land have been co-constituted through material and affective relations between humans and elephants, especially across Asia and Africa (SUKUMAR, 2003; TRAUTMANN, 2015). The colonial expansion by Europeans also co-opted the abilities of these tropical giants into Western modes of accumulation and dispossession, remnants of which are still visible and felt (SHELL, 2019; KEIL, 2020). The various modes of cohabitation with elephants have been depicted through much of written or pictorial history, especially in India, as, for example, in the classical texts of the *Hastividya* or *Mātangalīla*, or through Indian art and sculpture down the ages (see chapter 6, this volume). Modern scientific engagement with human-elephant interactions is, however, fairly new and mostly rooted in the

disciplines of the natural sciences. The social sciences, too, have recently forayed into examining this relationship and have begun to contribute widely and quite critically. Both the natural and social sciences have, however, established rather independent understandings of human and elephant worlds and generalised these interspecies relations into rather simplistic compartmentalisation of conflict versus coexistence. Human and elephant worlds thus become non-overlapping, complex, and self-dependent systems and present virtually no possibilities of an organic fusion of their lifeworlds.

Such disciplinary silos, however, seem to be cracking, as scholars from both disciplines are creating constructive bridges to integrate different perspectives. The results of these dialogues are encouraging, as they break new ground and further intriguing research questions related to possibly resilient human-elephant futures (LORIMER, 2010; LOCKE, 2013; BARUA & SINHA, 2017). Multidisciplinarity has thus truly become the need of the hour to understand human-elephant relations. In such a context, we propose a gendered perspective of the political and affective ecologies of this relationship. We first briefly describe three approaches to examine human-elephant relations and then offer a case study to integrate these approaches through the social category of gender. The ultimate goal of this endeavour is not to necessarily provide an objective understanding of human-elephant relations but to offer novel pathways that could be explored in the near future.

The first of these approaches is located in the field of political ecology, with its well-established body of work providing critical perspectives on how power asymmetries orient human and animal spaces (ADAMS & HUTTON, 2007; SRINIVASAN, 2016; BLUWSTEIN, 2018). Taking into consideration the hybrid subjectivities of the interacting humans and elephants, the second approach is that of affective, more-than-human ecologies, a field that has recently begun to investigate the ethnographies of multispecies assemblages that integrate concepts from ethology, geography, and philosophy, among others (FUENTES 2010; LOCKE, 2013; GOVINDRAJAN, 2018; SINHA et al., 2021). Finally, we suggest behavioural diversity as the third approach, a culmination of insights drawn from studies of humans encountering elephants, as well as other species, with local molecular behavioural responses, generated spatio-temporally, contributing to our understanding of molar behavioural decisions that characterise multitudes of encounters in a variety of

settings (BAUM, 2004; SRINIVASIAH et al., 2012, 2019; McCOMB et al., 2014; EVANS & ADAMS, 2018; VIJAYAKRISHNAN et al., 2018).

| POLITICAL ECOLOGIES OF HUMAN-ELEPHANT RELATIONS

The political ecologies of human-elephant relations aim to examine the impacts of broader sociopolitical structures on landscape configurations, including elephant reserves and elephant corridors, and on the human-elephant encounter itself. The global circulation of material, capital, and labour, as well as the hyper-consumerism of the Global North, has often dictated local land-use planning policies in the Global South, especially in the countries recovering from European colonialism (BRYANT & BAILEY, 1997; ROBBINS, 2011; SULTANA, 2020). These asymmetries result in agricultural and industrial expansion into “natural” spaces of terrestrial and aquatic ecosystems, thereby generating novel human-wildlife encounters with increasing frequency (MADHUSUDAN, 2005; MARGULIES & KARANTH, 2018). At the local level, social and political inequalities shape and modify animal spaces, by changing landscape cover, often leading to their degradation and fragmentation, thereby enhancing the overlap of needs and spaces of resource-dependent humans and wildlife, with the Asian elephant being an important species that is being increasingly negatively affected (BARUA, 2014). The costs and benefits of living close to elephants are also disproportionately distributed according to privileges and rights, typically based on class, caste, gender, ethnicity, place or other social markers (OGRA, 2008; BARUA et al., 2013; JADHAV & BARUA, 2012; BANERJEE & SHARMA, 2022). Although such analysis has often provided critical insights into the causes and impacts of human-elephant encounters, the current approaches adopted by political ecology have often been criticised for an overemphasis on the “human” as their central subject (SRINIVASAN & KASTURIRANGAN, 2016; MARGULIES & BERSAGLIO, 2018). Thus, even though political ecology has considered elephants and elephant spaces, the nonhuman has never become the “lively” actor of its narratives.

| AFFECTIVE ECOLOGIES

The “more-than-human” turn in ecological geography considers a landscape’s evolution as a shared achievement of both humans and non-humans alike (HINCHCLIFFE, 2003; WHATMORE, 2006): animals are then active subjects with wilful agency, capable of affecting lives and landscape-level processes, far beyond themselves. Thus, there have been fervent calls for integrating individual and collective human and animal subjectivities and understanding the affective atmospheres of “other-than-humans” (BARUA & SINHA, 2017; LORIMER et al., 2017). The inclusion of elephant lifeworlds in broader ecological analyses would then lead to the active rejection of any projection of the human merely against the backdrop of the animal and to the prominent recognition of the purposefulness of the elephants’ agency to co-create a world shared with humans and other agencies (BULLER, 2013). Moreover, through INGOLD’S (1995) concept of “dwelling” and HARAWAY’S (2008) idea of companion species, various aspects of the cohabitation between human and nonhuman species are being increasingly examined, whether in homes, cities, forests or even in “rurban” areas, referring to rural spaces experiencing gradual urbanisation (SOROKIN & ZIMMERMAN, 1929; PARSONS, 1949; SRINIVASIAH et al., 2022). The Asian elephant has also found a niche in such research, primarily due to its long history of being integral to several human communities. More specifically, the intimate working relations, circulation of affects—the intensely interpersonal, unconscious, precognitive, often inexpressible, flow of sensations between bodies (ANDERSON, 2006; SINHA et al., 2021)—and the various embodied responses in the construction of lives and landscapes by domestic elephants and their keepers, crosscutting the personal and the professional in their shared worlds, have now been documented in LOCKE’S (2013) and MÜNSTER’S (2016) studies in Nepal and southern India respectively. Such affective, multispecies relations between domestic/wild elephants and humans have also been reported from northeastern India (KEIL, 2016; LAINÉ, 2020) and can be argued to emerge from the historical material politics and interspecies relationships typical of the region. BARUA (2014) has tracked, in great detail, the environmental history, elephant lives and associated subaltern concerns in a co-produced landscape in the state of Assam in northeastern India. He showed how the lives of humans and wild elephants have remained

entangled through the politico-environmental histories of colonial and postcolonial times. Finally, we argue that one must also recognise the multi-layered sociality, complex decision-making processes and sophisticated cognitive abilities that characterise the nonhuman species, so reminiscent of ourselves and our lives, and which warrant a far closer examination of their and our shared lifeworlds (SINHA & SRINIVASIAH, 2021). Our own studies of wild and domestic elephants have, therefore, begun to unravel them as affectively driven, cognitively behaving, subjective individual beings, responding, in their own unique ways, to their respective social and natural environments and histories (SRINIVASIAH et al., 2012, 2019; VIJAYAKRISHNAN & SINHA, 2019).

| BEHAVIOURAL DIVERSITY

While political as well as affective traditions have separately examined human-elephant relations, they find commonality in conceptualising humans or elephants as mere species and not as individuals with situated behaviours. The studies on behavioural diversity in both human and elephant dimensions have, however, documented several individualised behavioural repertoires that critically reflect on the generalised term “human-elephant relations” that is often held to the fore. Integrating the social sciences into ecological research has begun an in-depth examination of local communities’ perceptions, attitudes, and behaviours towards certain wild animals and their spaces. A myriad of demographic, socioeconomic, political, and experiential factors have, in the process, been found to strongly influence specific human perspectives and behaviours towards wildlife, including elephants (OGRA, 2008; HE et al., 2011; ALLENDORF & ALLENDORF, 2013; TALUKDAR & GUPTA, 2018; RAMESH et al., 2019). Across Africa and Asia, for example, some of the important predictors of human responses to perceived “conflict” with elephants are place-based. They range across various geographical factors, including ethnicity, settlement, and agricultural patterns, and other factors, such as human density, household characteristics, and even human aspirations (LENIN and SUKUMAR, 2011). From the elephants’ perspective, more recent, long-term studies of wild elephants in human-dominated, mixed-use landscapes of southern India have

likewise documented behavioural shifts among individual elephants, influenced by their age, sociality or, more importantly, by their individual and herd experiences (SRINIVASIAH et al., 2012, 2019). While studies over the last four decades have shown that patterns of risk-taking behaviour, such as crop-foraging, differ significantly between male and female elephants, as well as across younger and older individuals (BALASUBRAMANIAN et al., 1995; SUKUMAR, 2003; DESAI & RIDDLE, 2015), we have recently reported the formation of stable, all-male elephant groups, comprising socially bonded individuals from different age categories, which have evolved novel behavioural strategies that are particularly adept in reducing human-induced risks and increasing their gains from foraging on agricultural crops (SRINIVASIAH et al., 2012, 2019). Such biological adaptations, which could also be sociological, psychological or physiological, have allowed elephants to survive successfully and occasionally thrive in these unique, human-generated landscapes (Figure 1). Encounters and the resulting interactions



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Figure 1 | A herd of elephants roaming in a tea garden.

As forests shrink in quantity and quality due to political and economic reasons, elephants have behaviourally adapted to a life within tea estates and nearby cropfields, leading to increased material and affective encounters with people.

between humans and elephants are thus never uniform across time or space and, in turn, produce unusual relationships that are dynamic and often modulated by multispecies behavioural shifts and adaptations. Such interacting behavioural diversity, therefore, generates multiple human-elephant relations, each unique to itself and almost invariably confined to particular spaces over defined periods of time.

| GENDER

Gender is a socially constructed category directly bearing on all three approaches of examining human-elephant relations discussed above. Of these, the political ecological approaches have experienced significant expansion following integration with feminist concerns. The other two approaches, however, have not explored how they could be affected by incorporating gender as a focal analytical axis. In order to explore the importance of gender in configuring our notions of human-elephant relations, we conducted a preliminary exploration, using an oral history design, of people's narratives and perceptions of living with elephants in a forest-agriculture landscape in Udalguri, a typical human-elephant "conflict" hotspot in the state of Assam in northeastern India.

Assam has experienced transformations in its physical and human geography through its colonial history, as well as in the post-independence era. Over the last two hundred years, the rapid conversion of forest, grasslands, and communal lands into plantations, reserves and settled farmlands has led to the subsequent settlement of various ethnic groups and their engagement in these "productive" activities (SAIKIA, 2011; SHARMA et al., 2012). This has resulted in strong resentment among the indigenous people of Assam and led to violent episodes of struggle for self-determination in the late-20th century (BARUAH, 1999). Among these social mobilisations, the Bodoland movement attempted to establish a separate territory for the indigenous Bodo populace as a response to the perceived historical injustice meted out to them over centuries (VANDEKERCKHOVE & SUKYENS, 2010; MISRA, 2012). Udalguri has historically been part of this violent landscape. After an agreement between the Indian state, government of Assam and representatives

of the Bodoland movement, an arrangement for a quasi-self-governance system, under the aegis of the Bodoland Territorial Autonomous District, was established in the region in 2003.

The elephant habitat in Udalguri has been partially lost, degraded or fragmented over the last four decades, overlapping with the Bodoland movement, primarily due to agricultural expansion, human migration, and socio-political conflicts over land. As a result, elephant incursions into crop fields and human settlements have significantly increased over the years. Human–elephant encounters reach their peak during agricultural harvest, with the resultant direct impacts consisting of crop and asset damages, as well as injuries and the death of humans and elephants alike. In such a mixed-ethnic and mixed-use landscape, we sought to understand the gender implications of living close to and interacting with wild elephants in the everyday.

Scholarship in feminist political ecology has revealed that resource use is differently structured along gender lines, especially in South and Southeast Asia (AGARWAL, 1992), with gendered asymmetries in survival techniques, everyday responsibilities, and collective action (SUNDBERG, 2017; SULTANA, 2020). Gendered roles and responsibilities, usage of space, division of labour, and asymmetric access to tangible and intangible resources—all tend to produce gendered perceptions of wildlife (KELLERT & BERRY, 1987; HILL, 1998; KURIYAN, 2002; OGRA, 2008; BHATIA et al., 2020), gendered costs and benefits from living close to wildlife (OGRA, 2008; BARUA et al., 2013; BANERJEE & SHARMA, 2022) and gendered hierarchies, both in public and in private (DOUBLEDAY, 2020).

In our rural landscapes, the nature of work, both domestic and reproductive, orients resource requirements and space utilisations, with differential space use leading to women and men experiencing encounters and interactions with elephants differently (BANERJEE, 2017). Across the ethnic groups in our study area, women living in the vicinity of the forest perform specific duties as part of household work, including collecting firewood and drinking water. In the absence of amenities such as liquefied petroleum gas, typically used for cooking, or water pump stations, these duties predispose women to frequent forests, riverbanks or tea estates to collect the necessary resources. This gendered work leads them to encounter elephants at relatively higher frequencies, as these are spaces significantly utilised by elephants in the

course of their movement, foraging or resting. Men, in contrast, interact with elephants mostly in agricultural spaces while guarding crops at night. During the agricultural season, men are “socially expected” to guard crops at night, either individually or in groups, and to drive out invading elephants. Such encounters are typically aggressive and often violent, with many men—and several, usually male, elephants—losing their lives every year.

The impacts of such gendered experiences with elephants, and the responses to them, often become gendered. Our own studies (BANERJEE & SHARMA, 2022; BANERJEE & SINHA, 2023) and those by OGRA (2008), JADHAV & BARUA (2012), GOGOI (2018) and DOUBLEDAY (2020) have also shown that living with elephants imposes disproportionate burdens on men and women. Direct, visible impacts, such as death or injuries, occur more for men due to more close-contact encounters with elephants. For women, the impacts, arising from their continued use of risky spaces, increased workload, and death or incapacitation of the main earning members of the family, are often long-term, uncompensated and hidden. Akin to OGRA (2008), we observed men in our study site adapted to their economic losses through out-migration or engaging in more non-farm, daily-wage-based activities. However, women’s health and adaptation status was typically unchanged or even compromised by their continued use of elephant spaces to fulfil their household work. It was also observed that women’s agricultural and forest-based activities often intensified in the absence of men, who had migrated to urban centres. Thus, socioeconomically modulated gendered roles and responsibilities, along with the differential use of space they entailed, appeared to produce gendered vulnerabilities, risks and impacts that were deeply embedded within the quotidian lives spent amongst elephants.

Gender, we therefore suggest, needs to be studied as a focal political category in our search for landscape reorderings and reconfigurations of elephant spaces. Gendered negotiations of living amongst elephants typically lead to the formation of specific knowledge and perceptions of their behaviour and the development of particular perspectives of other species. Women and men thus often emphasised the problems faced by elephants with analogies that mirrored those in their own lives, leading to an active anthropomorphising of the elephants in distinct ways (BANERJEE & SHARMA, 2022; BANERJEE & SINHA, 2023). Moreover, we believe that such gendered imaginings could also reflect differential

readings of individual elephants on the basis of the elephant's sex and their evidently gendered behavioural profiles (SRINIVASIAH et al., 2012), but these await further elucidation.

Poverty and resource unavailability also emerged as recurrent themes in many of these narratives, wherein humans and elephants were described as being comparatively deprived. Additionally, these anthropomorphised narratives often became gendered when women and men offloaded their respective vulnerabilities to describe the deprived lives and times of the elephants with which they shared their days and nights. Describing elephants' crop foraging behaviour in "human spaces", for example, women often compared such behaviour with their own activities of foraging for firewood and wild vegetables in the forest. In contrast, men who engaged more in non-farm, daily wage-based livelihoods in other villages and towns made sense of male elephant movements through analogies of their daily or periodic migrations in search of work and money to run their families. Even though these observations emerged from asking male and female respondents how they perceived "elephants"—referring to all individual elephants within a singular category—we reiterate that such anthropomorphisms could incorporate further elements of "gendering of elephants", with fe/male elephants being perceived in specifically different ways by fe/male humans. Such gendered anthropomorphisation could also be seen as a way of being in this world, along with the elephants of that place, thereby conceptually "situating" specific knowledge in a spatio-temporal continuum. However, such situated knowledge (HARAWAY, 1988) is often not expressed but only experienced silently, remaining latent and undiscovered. Thus, there is an urgent imperative to explore these affective, dominantly vernacular ethologies, for without them we would have very little understanding of how encounters with elephants and the circulation of affects are themselves gendered, especially given that perceptions towards elephants and material realities are gendered in their own right as well. Finally, we need to unpack how affects and emotions, gendered as they may be, mediate these relations, at least from the human perspective.

While there may indeed be sex differences in human responses towards wildlife, such correlations typically remain limited to explanations based on sex and not gender. Being male or female is often considered a culmination of gendering processes that develop through spatiotemporal as well as eco-behavioural pathways, which are usually place- and

time-sensitive. Without explorations of how gendering develops and is performed, the linkages between sex/gender and one's attitudes and actions towards wildlife will remain incompletely understood. These limitations can also be extended to other social categories, such as caste, ethnicity or class. As gender cuts across all these categories, it could become the foundation for such intersectional analysis. The community that we studied was multi-ethnic, with specific component histories of the people embedded variously in the landscape. Gender relations within these groups were also different, with the men generally being socioeconomically dominant across all ethnicities. How the resultant ethno-gendered perspectives affect the community's knowledge and response to elephants they interacted in the everyday, requires further investigation (Figure 2). Finally, the notion of gendered encounters becomes even more intriguing when we question whether other-than-humans, such as elephants, could themselves also have individualised gendered lifeworlds.



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Figure 2 | Body of a dead elephant visited by the nearby local community.

Live and dead elephants become gendered portals for the local communities to know what elephants are and how to live alongside them.

| SYNTHESIS

Can the current approaches to study human-elephant relations, namely political ecology, affective ecology and behavioural diversity, be integrated through an examination of gender? We suggest that a focus on gender as a developmental process may provide a unique vantage point to explore the interplay of power, affect, emotions, attitudes and actions within the co-constructed lifeworlds of humans and elephants across a shared landscape.

Returning to our postulation that interdisciplinary investigations of multispecies assemblages are becoming essential in the Anthropo/Capitalocene, there is an urgent need to combine the perspectives of political and affective ecologies in locating human-elephant relations, both spatially and temporally. We suggest that the hybrid subjectivities of such assemblages, including their interactions and power asymmetries, be interrogated by studying the individualised lives of both humans and elephants, not merely as a clash of two combative species. Both elephants and humans thus become active lively agents, able to harness their behavioural diversity and adaptabilities to co-construct their shared lives and landscapes over space and time. A directed attention to gender, in addition, could provide a crucial key to comprehensively establish these vital linkages. We are convinced that gender specifically affects all these categories, be they political, affective ecologies or behavioural diversity, and thus serves as an entry point in furthering our understanding of human-elephant lifeworlds through the generation of novel questions, possibilities and capabilities.

We also suggest that before examining the linkages amongst the three approaches through gender, it may be necessary to further our understanding of how gender interacts with affective ecologies and behavioural diversity, in particular sociocultural landscapes. Such considerations require scholarly engagement, in its own merit, with the functional integration of the already established field of feminist political ecology with the emergent fields of “en-gendered” affective ecologies and behavioural diversity; only then will we be able to rethink and reorient towards effective, novel understandings of human-elephant relations in ever-changing landscapes.

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| REFERENCES

ADAMS W. M, HUTTON J., 2007 – People, parks and poverty: Political ecology and biodiversity conservation. *Conservation and Society*, 5 (2): 147-183.

AGARWAL B., 1992 – The gender and environment debate: lessons from India. *Feminist Studies*, 18 (1): 119-158. <https://doi.org/10.2307/3178217>

ALLENDORF T. D., ALLENDORF K., 2013 – Gender and attitudes toward protected areas in Myanmar. *Society and Natural Resources*, 26(8): 962-976. <https://doi.org/10.1080/08941920.2012.729295>

ANDERSON B., 2006 – Becoming and being hopeful: towards a theory of affect. *Environment and Planning D: Society and Space*, 24 (5): 733-752. <https://doi.org/10.1068/d393t>

BALASUBRAMANIAN M., BASKARAN N., SWAMINATHAN S., DESAI A. A., 1995 – « Crop raiding by Asian elephant (*Elephas maximus*) in the Nilgiri Biosphere Reserve, South India ». In Daniel J. C., Datye H. S. (eds.): *A Week with Elephants*, Bombay (now Mumbai), Bombay Natural History Society/Oxford University Press: 350-367.

BANERJEE S., 2017 – ‘En-gendering’ human–elephant conflict (HEC): the case of Udalguri district, Assam. Master’s degree dissertation, Tata Institute of Social Sciences, Guwahati, India.

BANERJEE S., SHARMA S., 2022 – Engendering human-wildlife interactions: towards decolonized conservation. *Journal of Political Ecology*, 28 (1). <https://doi.org/10.2458/jpe.5217>

BANERJEE S., SINHA A., 2023 – « Reading the elephant: towards affectual conceptualisations of the wild Asian elephants ». In Aiyadurai A., Chattopadhyay A., Choksi N. (eds.): *Ecological Entanglements: Affect, Embodiment and Ethics of Care*, Hyderabad, Orient BlackSwan: 73-87.

BARUA M., 2014 – Bio-geo-graphy: landscape, dwelling, and the political ecology of human-elephant relations. *Environment and Planning D: Society and Space*, 32(5): 915-934. <https://doi.org/10.1068/d4213>

BARUA M., SINHA A., 2017 – Animating the urban: an ethological and geographical conversation. *Social and Cultural Geography*, 20 (8): 1160-1180. <https://doi.org/10.1080/14649365.2017.1409908>

BARUA M., BHAGWAT S. A., JADHAV S., 2013 – The hidden dimensions of human-elephant conflict: health impacts, opportunity and transaction costs. *Biological Conservation*, 157: 309-316. <https://doi.org/10.1016/j.biocon.2012.07.014>

BARUAH S., 1999 – *India against itself: Assam and the politics of nationality*. Philadelphia, University of Pennsylvania Press, 257 p.

BAUM W. M., 2004 – Molar and molecular views of choice. *Behavioural Processes*, 66: 349-359. <https://doi.org/10.1016/j.beproc.2004.03.013>

BHATIA S., REDPATH S. M., SURYAWANSHI K., MISHRA C., 2020 – Beyond conflict: exploring the spectrum of human-wildlife interactions and their underlying mechanisms. *Oryx*, 54 (5): 621-628. <https://doi.org/10.1017/S003060531800159X>

BLUWSTEIN J., 2018 – From colonial fortresses to neoliberal landscapes in northern Tanzania: a biopolitical ecology of wildlife conservation. *Journal of Political Ecology*, 25 (1): 144-168. <https://doi.org/10.2458/v25i1.22865>

BRYANT R. L., BAILEY S., 1997 – *Third world political ecology*. London, Psychology Press, 237 p.

BULLER H., 2013 – Animal geographies I. *Progress in Human Geography*, 38 (2): 308-318. <https://doi.org/10.1177/0309132513479295>

DESAI A. A., RIDDLE H. S., 2015 – *Human-elephant conflict in Asia*. U.S. Fish and Wildlife Service, Asian Elephant Support, Report, Retrieved from <https://www.fws.gov/international/pdf/Human-Elephant-Conflict-in-Asia-June2015.pdf>.

DOUBLEDAY K. F., 2020 – Tigers and “good Indian wives”: feminist political ecology exposing the gender-based violence of human-wildlife conflict in Rajasthan, India. *Annals of the American Association of Geographers*, 110 (5): 1521-1539. <https://doi.org/10.1080/24694452.2020.1723396>

EVANS L. A., ADAMS W. M., 2018 – Elephants as actors in the political ecology of human–elephant conflict. *Transactions of the Institute of British Geographers*, 43 (4): 630-645. <https://doi.org/10.1111/tran.12242>

FUENTES A., 2010 – Naturalcultural encounters in Bali: monkeys, temples, tourists, and ethnoprimateology. *Cultural Anthropology*, 25 (4): 600-624. <https://doi.org/10.1111/j.1548-1360.2010.01071.x>

GOGOI M., 2018 – Emotional coping among communities affected by wild-life-caused damage in north-east India: opportunities for building tolerance and improving conservation outcomes. *Oryx*, 52 (2): 214-219. <https://doi.org/10.1017/S0030605317001193>

GOVINDRAJAN R., 2018 – *Animal intimacies: interspecies relatedness in India's Central Himalayas*. Chicago, University of Chicago Press, 220 p.

HARAWAY D. J., 1988 – Situated knowledges: the science question in feminism and the privilege of partial perspective. *Feminist Studies*, 14 (3): 575-599.

HARAWAY D. J., 2008 – *When species meet*. Minneapolis, University of Minnesota Press, 423 p.

HE Q., WU Z., ZHOU W., DONG R., 2011 – Perception and attitudes of local communities towards wild elephant-related problems and conservation in Xishuangbanna, southwestern China. *Chinese Geographical Science*, 21 (5): 629-636. <https://doi.org/10.1007/s11769-011-0499-4>

HILL C. M., 1998 – Conflicting attitudes towards elephants around the Budongo Forest Reserve, Uganda. *Environment Conservation*, 25 (3): 244-250. <https://doi.org/10.1017/S0376892998000307>

HINCHCLIFFE S., 2003 – « Inhabiting: landscapes and natures ». In Anderson K., Domosh M., Pile S., Thrift N. (eds.): *The handbook of cultural geography*, London, Sage: 207-225.

INGOLD T., 1995 – « Building, dwelling, living ». In Strathern M. (ed.): *Transformations in anthropological knowledge*, London, Routledge: 57-80.

JADHAV S., BARUA M., 2012 – The elephant vanishes: impact of human–elephant conflict on people's wellbeing. *Health and Place*, 18 (6): 1356-1365. <https://doi.org/10.1016/j.healthplace.2012.06.019>

KEIL P. G., 2016 – « Elephant-human dandi: how humans and elephants move through the fringes of forest and village ». In Locke P., Buckingham J. (eds.):

Conflict, negotiation, and coexistence: rethinking human–elephant relations in South Asia, New Delhi, Oxford University Press: 242-271.

KEIL P. G., 2020 – On the trails of free-roaming elephants: human–elephant mobility and history across the Indo-Myanmar highlands. *Transfers*, 10 (2-3): 62-82. <https://doi.org/10.3167/TRANS.2020.10020302>

KELLERT S. R., BERRY J. K., 1987 – Attitudes, knowledge, and behaviors toward wildlife as affected by gender. *Wildlife Society Bulletin*, 15 (3): 363-371.

KURIYAN, R., 2002 – Insights and applications: linking local perceptions of elephants and conservation: Samburu pastoralists in northern Kenya. *Society and Natural Resources*, 15 (10): 949-957. <https://doi.org/10.1080/08941920290107675>

LAINÉ N., 2020 – *Living and working with giants: a multispecies ethnography of the Khamti and elephants in northeast India*. Paris, Muséum national d'Histoire naturelle, 272 p. <https://doi.org/10.5852/nes02>

LENIN J., SUKUMAR R., 2011 – *Action plan for the mitigation of elephant–human conflict in India*. Final Report to the U.S. Fish and Wildlife Service, Bangalore, Asian Nature Conservation Foundation.

LOCKE P., 2013 – Explorations in ethnoelephantology: social, historical, and ecological intersections between Asian elephants and humans. *Environment and Society*, 4 (1): 79-97. <https://doi.org/10.3167/ares.2013.040106>

LORIMER J., 2010 – Elephants as companion species: the lively biogeographies of Asian elephant conservation in Sri Lanka. *Transactions of the Institute of British Geographers*, 35 (4): 491-506. <https://doi.org/10.1111/j.1475-5661.2010.00395.x>

LORIMER J., HODGETTS T., BARUA M., 2017 – Animals' atmospheres. *Progress in Human Geography*, 43 (1): 26-45. <https://doi.org/10.1177%2F0309132517731254>

MADHUSUDAN M. D., 2005 – The global village: linkages between international coffee markets and grazing by livestock in a south Indian wildlife reserve. *Conservation Biology*, 19 (2): 411-420. <https://doi.org/10.1111/j.1523-1739.2005.00330.x>

MARGULIES J. D., BERSAGLIO B., 2018 – Furthering post-human political ecologies. *Geoforum*, 94: 103-106. <https://doi.org/10.1016/j.geoforum.2018.03.017>

MARGULIES J. D., KARANTH K. K., 2018 – The production of human-wildlife conflict: a political animal geography of encounter. *Geoforum*, 95: 153-164. <https://doi.org/10.1016/j.geoforum.2018.06.011>

McCOMB K., SHANNON G., SAYIALEL K. N., MOSS C., 2014 – Elephants can determine ethnicity, gender, and age from acoustic cues in human voices. *Proceedings of the National Academy of Sciences U.S.A.*, 111 (14): 5433-5438. <https://doi.org/10.1073/pnas.1321543111>

MISRA U., 2012 – Bodoland: the burden of history. *Economic and Political Weekly*, 47 (37): 36-42.

MÜNSTER U., 2016 – Working for the forest: the ambivalent intimacies of human–elephant collaboration in south Indian wildlife conservation. *Ethnos*, 81 (3): 425-447. <https://doi.org/10.1080/00141844.2014.969292>

OGRA M. V., 2008 – Human–wildlife conflict and gender in protected area borderlands: a case study of costs, perceptions, and vulnerabilities from Uttarakhand (Uttaranchal), India. *Geoforum*, 39 (3): 1408-1422. <https://doi.org/10.1016/j.geoforum.2007.12.004>

OGRA M., 2009 – Attitudes toward resolution of human–wildlife conflict among forest-dependent agriculturalists near Rajaji National Park, India. *Human Ecology*, 37 (2): 161-177. <https://doi.org/10.1007/s10745-009-9222-9>

PARSONS T., 1949 – *Essays in sociological theory: pure and applied*. New York, Free Press, 366 p.

RAMESH T., KALLE R., SANKAR K., QURESHI Q., GIORDANO A. J., DOWNS C. T., 2019 – To resettle or not? Socioeconomic characteristics, livelihoods, and perceptions toward resolving human-tiger conflict in the Nilgiri Biosphere Reserve, India. *Land Use Policy*, 83: 32-46. <https://doi.org/10.1016/j.landusepol.2019.01.019>

ROBBINS P., 2011 – *Political ecology: a critical introduction* (2nd ed.). Chichester, UK, John Wiley and Sons, 288 p.

SAIKIA A., 2011 – *Forests and ecological history of Assam, 1826–2000*. New Delhi, Oxford University Press, 388 p.

SHARMA N., MADHUSUDAN M. D., SINHA A., 2012 – Socio-economic drivers of forest cover change in Assam: a historical perspective. *Economic and Political Weekly*, 47 (5): 64-72.

SHELL J., 2019 – The enigma of the Asian elephant: sovereignty, reproductive nature, and the limits of empire. *Annals of the American Association of Geographers*, 109 (4): 1154-1171. <https://doi.org/10.1080/24694452.2018.1536534>

SINHA A., SRINIVASIAH N. M., 2021 – *The elephant in the city: the trialectics of space in the rurban elephants of southern India*. Position paper, Workshop on Spaces of Living in Transformation—In Times of Uncertainty, June 2020, Urban Environments Initiative, Rachel Carson Center, Ludwig Maximilian University, Munich, Germany, retrieved from <https://urbanenv.org/position-papers/>

SINHA A., CHOWDHURY A., ANCHAN N. S., BARUA A., 2021 – « Affective ethnographies of animal lives ». In HOVORKA A., McCUBBIN S., VAN PATTER L. (eds.): *A research agenda for animal geographies*, Cheltenham, UK/ Northampton, MA, USA, Edward Elgar Publishing: 129-146.

SOROKIN P. A., ZIMMERMAN C. C., 1929 – *Principles of rural-urban sociology*. New York, Henry Holt, 652 p.

SRINIVASIAH N. M., ANAND V. D., VAIDYANATHAN S., SINHA A., 2012 – Usual populations, unusual individuals: insights into the behavior and management of Asian elephants in fragmented landscapes. *PLoS One*, 7 (8): e42571. <https://doi.org/10.1371/journal.pone.0042571>

SRINIVASIAH N. M., KUMAR V., VAIDYANATHAN S., SUKUMAR R., SINHA A., 2019 – All-male groups in Asian elephants: A novel, adaptive social strategy in increasingly anthropogenic landscapes of southern India. *Scientific Reports*, 9: 8678. <https://doi.org/10.1038/s41598-019-45130-1>

SRINIVASIAH N. M., JAYADEVAN A., VAIDYANATHAN S., SUKUMAR R., SINHA A., 2022 – The rurban elephant: behavioural ecology of Asian elephants in response to large-scale landuse change in a human-dominated landscape in peri-urban southern India. In Diehl J. A., Kaur H. (eds.): *New forms of urban agriculture: an urban ecology perspective*, Singapore, Springer Nature: 289-310.

SRINIVASAN K., 2016 – Towards a political animal geography? *Political Geography*, 50: 76-78. <https://doi.org/10.1016/j.polgeo.2015.08.002>

SRINIVASAN K., KASTURIRANGAN R., 2016 – Political ecology, development, and human exceptionalism. *Geoforum*, 75: 125-128. <https://doi.org/10.1016/j.geoforum.2016.07.011>

SUKUMAR R., 2003 – *The living elephants: evolutionary ecology, behaviour, and conservation*. New York, Oxford University Press, 478 p.

SULTANA F., 2020 – Political ecology 1: from margins to center. *Progress in Human Geography*, 45 (1): 156-165. <https://doi.org/10.1177/0309132520936751>

SUNDBERG J., 2017 – « Feminist political ecology ». In Richardson D. (ed.): *International encyclopedia of geography: people, the earth, environment, and technology*, Hoboken, NJ, USA, Wiley-Blackwell: 2340-2350

TALUKDAR S., GUPTA A., 2018 – Attitudes towards forest and wildlife, and conservation-oriented traditions, around Chakrashila Wildlife Sanctuary, Assam, India. *Oryx*, 52 (3): 508-518. <https://doi.org/10.1017/S0030605316001307>

TRAUTMANN T. R., 2015 – *Elephants and kings: an environmental history*. Chicago, University of Chicago Press, 372 p.

VANDEKERCKHOVE N., SUKYENS B., 2010 – The liberation of Bodoland: tea, forestry and tribal entrapment in western Assam. *South Asia: Journal of South Asian Studies*, 31 (3): 450-471. <https://doi.org/10.1080/00856400802441961>

VIJAYAKRISHNAN S., SINHA A., 2019 – Human-captive elephant relationships in Kerala: historical perspectives and current scenarios. *Gajah*, 50: 29-35.

VIJAYAKRISHNAN S., KUMAR M. A., UMAPATHY G., KUMAR V., SINHA A., 2018 – Physiological stress responses in wild Asian elephants *Elephas maximus* in a human-dominated landscape in the Western Ghats, southern India. *General and Comparative Endocrinology*, 266: 150-156. <https://doi.org/10.1016/j.ygcen.2018.05.009>

WHATMORE S., 2006 – Materialist returns: practising cultural geography in and for a more-than-human world. *Cultural Geographies*, 13 (4): 600-609. <https://doi.org/10.1191/1474474006cgj377oa>